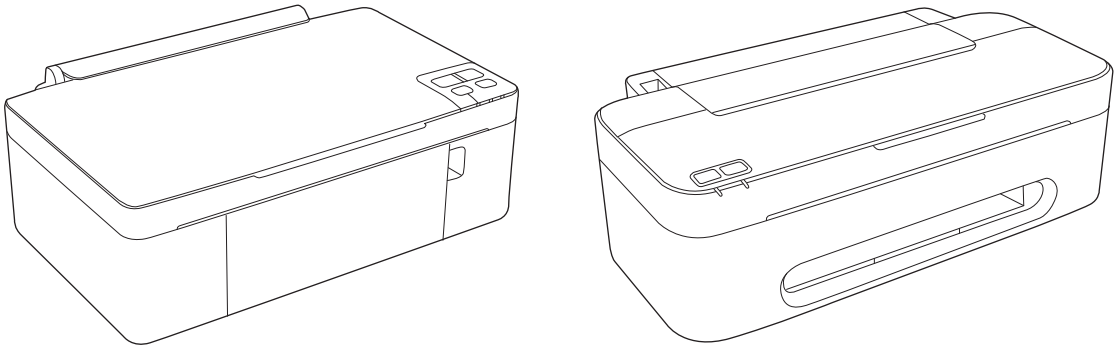
SERVICE MANUAL



Color Inkjet Printer

Epson Stylus NX125/NX127/TX120/TX125/TX123/ SX125/TX121/TX121x/TX129/
Epson ME 320/ME 330/ME 350
Epson Stylus T13/T13x/T12/N10/N11/T22/T25/S22/ T22E/
Epson ME 10/ME 32/ME 33/ME 35
Epson Stylus NX130/TX130/TX133/TX135/SX130 ME 340

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SEMF09-013
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Safety Precautions

All safety procedures described here shall be strictly adhered to by all parties servicing and maintaining this product.

DANGER

Strictly observe the following cautions. Failure to comply could result in serious bodily injury or loss of life.

1. Always disconnect the product from the power source and peripheral devices when servicing the product or performing maintenance.
2. When performing works described in this manual, do not connect to a power source until instructed to do so. Connecting to a power source causes high voltage in the power supply unit and some electronic components even if the product power switch is off. If you need to perform the work with the power cable connected to a power source, use extreme caution to avoid electrical shock.

WARNING

Strictly observe the following cautions. Failure to comply may lead to personal injury or loss of life.

1. Always wear protective goggles for disassembly and reassembly to protect your eyes from ink in working. If any ink gets in your eyes, wash your eyes with clean water and consult a doctor immediately.
2. When using compressed air products; such as air duster, for cleaning during repair and maintenance, the use of such products containing flammable gas is prohibited.

PRECAUTIONS

Strictly observe the following cautions. Failure to comply may lead to personal injury or damage of the product.

1. Repairs on Epson product should be performed only by an Epson certified repair technician.
2. No work should be performed on this product by persons unfamiliar with basic safety knowledge required for electrician.
3. The power rating of this product is indicated on the serial number/rating plate. Never connect this product to the power source whose voltages is different from the rated voltage.
4. Replace malfunctioning components only with those components provided or approved by Epson; introduction of second-source ICs or other non-approved components may damage the product and void any applicable Epson warranty.
5. In order to protect sensitive microprocessors and circuitry, use static discharge equipment, such as anti-static wrist straps, when accessing internal components.
6. Do not tilt this product immediately after initial ink charge, especially after performing the ink charge several times. Doing so may cause ink to leak from the product because it may take some time for the waste ink pads to completely absorb ink wasted due to the ink charge.
7. Never touch the ink or wasted ink with bare hands. If ink comes into contact with your skin, wash it off with soap and water immediately. If you have a skin irritation, consult a doctor immediately.

8. When disassembling or assembling this product, make sure to wear gloves to avoid injuries from metal parts with sharp edges.
9. Use only recommended tools for disassembling, assembling or adjusting the printer.
10. Observe the specified torque when tightening screws.
11. Be extremely careful not to scratch or contaminate the following parts.
    - Nozzle plate of the printhead
    - CR Scale
    - PF Scale
    - Coated surface of the PF Roller
    - Gears
    - Rollers
    - LCD
    - Scanner Sensor
    - Exterior parts
12. Never use oil or grease other than those specified in this manual. Use of different types of oil or grease may damage the component or give bad influence on the printer function.
13. Apply the specified amount of grease described in this manual.
14. Make the specified adjustments when you disassemble the printer.
15. When cleaning this product, follow the procedure described in this manual.
16. When transporting this product after filling the ink in the printhead, pack the printer without removing the ink cartridges in order to prevent the printhead from drying out.
17. Make sure to install antivirus software in the computers used for the service support activities.
18. Keep the virus pattern file of antivirus software up-to-date.

About This Manual

This manual, consists of the following chapters, is intended for repair service personnel and includes information necessary for properly performing maintenance and servicing the product.

CHAPTER 1. DISASSEMBLY / ASSEMBLY

Describes the disassembly/reassembly procedures for main parts/units of the product, and provides the standard operation time for servicing the product.

CHAPTER 2. ADJUSTMENT

Describes the required adjustments for servicing the product.

CHAPTER 3. MAINTENANCE

Describes maintenance items and procedures for servicing the product.

CHAPTER 4. APPENDIX

Provides the following additional information for reference:

- Power-On Sequence
- Connector Summary

Symbols Used in this Manual

Various symbols are used throughout this manual either to provide additional information on a specific topic or to warn of possible danger present during a procedure or an action. Pay attention to all symbols when they are used, and always read explanation thoroughly and follow the instructions.

Indicates an operating or maintenance procedure, practice or condition that, if not strictly observed, could result in serious injury or loss of life.

Indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in bodily injury, damage or malfunction of equipment.

May indicate an operating or maintenance procedure, practice or condition that is necessary to accomplish a task efficiently. It may also provide additional information that is related to a specific subject, or comment on the results achieved through a previous action.

For Chapter 1 “Disassembly/Assembly”, symbols other than indicated above are used to show additional information for disassembly/reassembly. For the details on those symbols, see " 1.2 Disassembly/Assembly Procedures (p10)".

Revision Status

Revision	Date of Issue	Description
A	April 28, 2010	First Release
B	August 19, 2010	Revised Contents [Chapter 1] - 1.2.1Standard Operation Time for servicing the product Table 1-2 on page 11-12 Standard Operation Time(NX125 series) is added. - 1.2.1Standard Operation Time for servicing the product Table 1-3 on page 12 Standard Operation Time(T13 series) is added. [Chapter 3] - 3-1 Overview on page 28-30. Greese name is added.
C	October 12, 2010	[Chapter 3] - 3-1 Overview on page 28-30. Greese name is TBD.
D	February 22, 2011	[All chapters] The model name"EPSON Stylus TX121x/TX13x/EPSON ME 350/ EPSON ME 35 are added.
E	March 25, 2011	Revised Contents [All chapters] - The model name "EPSON Stylus NX130 series" are added, and revision is changed. [Chapter 5] - Information for "EPSON Stylus NX130/TX130/TX133/TX135/SX130/ME340" is added.
F	May 26, 2011	Revised Contents [chapter 3] - 3-1 Overview on page 28. Grease name: G-94 - 3-2 Overview on page 29. <Grease Lubrication Point> Shaft on the Scanner Housing ---> Greese name is G-94. - 3-2 Overview on page 30. <Grease Lubrication Point> Contacting points (x2) with the Driven Pulley ---> Greese name is G-71.

Contents

CHAPTER **1**

DISASSEMBLY/ASSEMBLY

1.1 Overview

This chapter describes procedures for disassembling the main components of NX125, T13 and NX130 series. Unless otherwise specified, disassembled units or components can be reassembled by reversing the disassembly procedure. Refer to " 1.3 Details of Disassembling/Assembling by Parts/Unit (p16)" for cautions and such if necessary when disassembling and assembling.

Read the " Safety Precautions (p3)" before disassembling and assembling.

When you have to remove components or parts that are not described in this chapter, see the exploded diagrams of SPI (Service Parts Information).

In this chapter, the product names are called as follows:

- **NX125 series: Epson Stylus NX125/NX127/TX120/TX125/TX123/SX125/TX121/TX121x/TX129/Epson ME 320/ME 330/ME 350**
- **T13 series: Epson Stylus T13/T13x/T12/N10/N11/T22/T25/S22/T22E/Epson ME 10/ME 32/ME 33/ME 35**
- **NX130 series: Epson Stylus NX130/TX130/TX133/TX135/SX130/Epson ME 340**

1.1.1 Tools

Use only specified tools to avoid damaging the printer.

Table 1-1. Tools

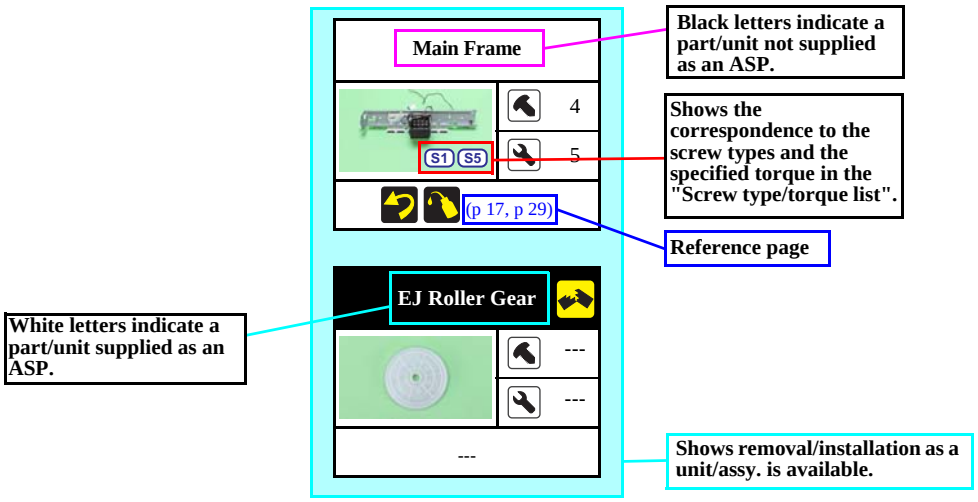
Name	EPSON Part Code*
(+) Phillips screwdriver #1	1080530
(+) Phillips screwdriver #2	---
Flathead screwdriver	---
Flathead Precision screwdriver #1	---
Tweezers	---
Longnose pliers	---
Acetate tape	1003963
Nippers	---

Note *: All of the tools listed above are commercially available.
EPSON provides the tools listed with EPSON part code.

1.2 Disassembly/Assembly Procedures

This section describes procedures for disassembling the parts/units in a flowchart form. For some parts/units, detailed procedures or precautions are provided (accordingly indicated by icons and cell's color). Refer to the explanations in the example chart below and perform an appropriate disassembling and assembling procedure. (See" 1.3 Details of Disassembling/Assembling by Parts/Unit (p16)".)
For routing cables, see " 1.4 Routing FFC/cables (p21)"

The example below shows how to see the charts on the following pages.



Item		Description	Reference
Parts/unit name	White-letter	Parts/units supplied as an ASP	---
	Black-letter	Parts/units not supplied as an ASP	---
Icon		Indicates a practice or condition that could result in injury or loss of life if not strictly observed.	Indicates the reference page in blue-letter
		Indicates a practice or condition that could result in damage to, or destruction of equipment if not strictly observed.	Indicates the reference page in blue-letter
		Indicates the parts that are inevitably broken in the disassembling procedure, and should be replaced with a new one for reassembly.	---
		Indicates necessary check items in the disassembling/ assembling procedure.	Indicates the reference page in blue-letter
		Indicates supplementary explanation for disassembly is given.	Indicates the reference page in blue-letter
		Indicates particular tasks to keep quality of the components are required.	Indicates the reference page in blue-letter
		Indicates particular routing of cables is required.	Indicates the reference page in blue-letter
		Indicates particular adjustment(s) is/are required.	Chapter 2 " Adjustment (p23)"
		Indicates lubrication is required.	Chapter 3 " Maintenance (p27)"
		Indicates the number of screws securing the parts/ units.	---
		Indicates the points secured with other than a screw such as a hook, rib, dowel or the like.	---

1.2.1 Standard Operation Time for servicing the product

The following are the standard operation time for servicing the product. Those are based on the MTTR result measured using a prototype.

The underlined parts/units are supplied as After Service Parts.

- Standard Operation Time for servicing NX125/NX130 series :See Table 1-2.
- Standard Operation Time for servicing T13 series:: :::: :See Table 1-3.

Table 1-2. Standard Operation Time (NX125/NX130 series)

Parts/Unit	Time (second)			Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total		Replace-ment	Adjust-ment	Total
Panel Unit	14	5	19	Printhead	364	1027	1391
Panel Board	29	5	34	Holder Contact Assy	179	1027	1206
Paper Support Assy	12	5	17	CSIC Terminal	221	1027	1248
Paper Support Tray	20	5	25	CR Contact Module	194	1027	1221
Paper Support Tray 2	26	5	31	Holder Contact	293	1027	1320
Stacker Assy	12	5	17	EJ Frame Assy	149	5	154
Tray Exit Inner	15	5	20	EJ Roller	170	768	938
Tray Exit Outer	18	5	23	EJ Roller Gear	134	768	902
Jam Cover	18	5	23	Waste Ink Pads (for flushing)	230	768	998
Document Cover	9	5	14	Cover Flushing	195	768	963
Document Pad	20	5	25	Porous Pad Front Paper Guide	159	5	164
ASF Cover	5	5	10	CR Motor	235	768	1003
Ink Cartridge Cover	18	5	23	Power Supply Unit	129	768	897
Rear Cover	10	5	15	Waste Ink Tray Assy	163	822	985
Scanner Unit	79	5	84	Waste Ink Pads	239	822	1061
CIS	245	5	250	Main Frame	501	768	1269
Middle Housing Assy	126	5	131	Carriage Assy	906	768	1674
Middle Housing	146	5	151	PCB Encoder	953	768	1721
USB Cover	146	5	151	Head FFC	939	768	1707
LD Roller Assy	186	768	954	Timing Belt	915	768	1683
LD Roller	227	768	995	Carriage	995	768	1763
Housing Buckler	183	5	188	Upper Paper Guide	269	768	1037
Roller Idler Pick Assy	160	5	165	Pump Assy	791	768	1559
CR Scale	181	5	186	Gear Pump Idle	797	768	1565
Main Board	150	1027	1177	Lever Pick Clutch	798	768	1566
Driven Pulley Assy	363	768	1131	Gear Pump	811	768	1579
Pick Assy	376	768	1144	Bracket Pump	832	768	1600
Cap Unit	481	768	1249	Roller Pump	827	768	1595
Lever Cleaner	175	768	943	Waste Ink Tube	892	768	1640
Cap Assy	449	768	1217	Pump Housing	892	768	1660

Table 1-2. Standard Operation Time (NX125/NX130 series)

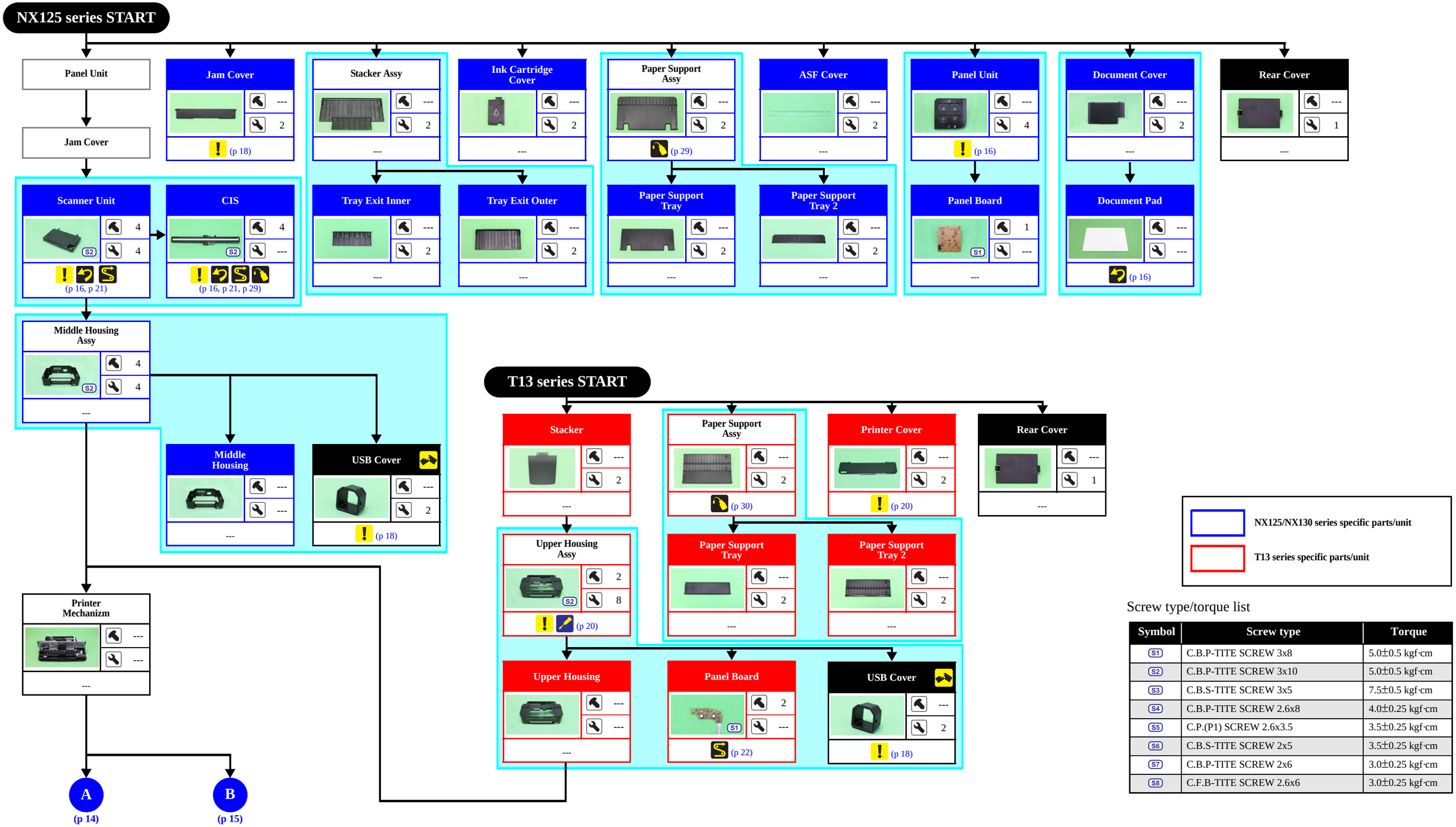
Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total
Waste Ink Pads (under the Cap Assy)	409	768	1177
PF Encoder	148	768	916
PF Scale	170	768	938
PF Roller	579	768	1347
PF Motor	531	768	1299

Table 1-3. Standard Operation Time (T13 series)

Parts/Unit	Time (second)		
	Replace-ment	Adjust-ment	Total
Printer Cover	50	5	55
Panel Board	81	5	86
Paper Support Assy	9	5	14
Paper Support Tray	17	5	22
Paper Support Tray 2	23	5	28
Stacker Assy	3	5	8
Rear Cover	10	5	15
Upper Housing Assy	87	5	92
Upper Housing	87	5	92
USB Cover	87	5	92
LD Roller Assy	127	768	895
LD Roller	168	768	936
Housing Buckler	124	5	129
Roller Idler Pick Assy	101	5	106
CR Scale	122	5	127
Main Board	91	1027	1118
Driven Pulley Assy	304	768	1072
Pick Assy	317	768	1085
Cap Unit	346	768	1114
Lever Cleaner	116	768	884
Cap Assy	390	768	1158
Waste Ink Pads (under the Cap Assy)	350	768	1118
PF Encoder	89	768	857
PF Scale	111	768	879
Upper Paper Guide	305	5	310
PF Roller	476	768	1244
PF Motor	472	768	1240
Printhead	305	1027	1332
Holder Contact Assy	120	1027	1147
CSIC Terminal	162	1027	1189
CR Contact Module	135	1027	1162
Holder Contact	234	1027	1261
EJ Frame Assy	90	1027	95
EJ Roller	111	5	879
EJ Roller Gear	75	768	843
Waste Ink Pads (for flushing)	171	768	939
Cover Flushing	136	768	904
Porous Pad Front Paper Guide	100	5	105
CR Motor	176	768	944
Power Supply Unit	70	768	838
Waste Ink Tray Assy	104	822	926
Waste Ink Pads	180	822	1002
Main Frame	442	768	1210
Carriage Assy	847	768	1615
PCB Encoder	894	768	1662
Head FFC	880	768	1648
Timing Belt	856	768	1624
Carriage	936	768	1704
Pump Assy	732	768	1500
Gear Pump Idle	738	768	1506
Lever Pick Clutch	739	768	1507
Gear Pump	752	768	1520
Bracket Pump	773	768	1541
Roller Pump	768	768	1536
Waste Ink Tube	833	768	1601
Pump Housing	833	768	1601

1.2.2 Disassembling/Assembling Flowchart

1.2.2.1 Housing Part

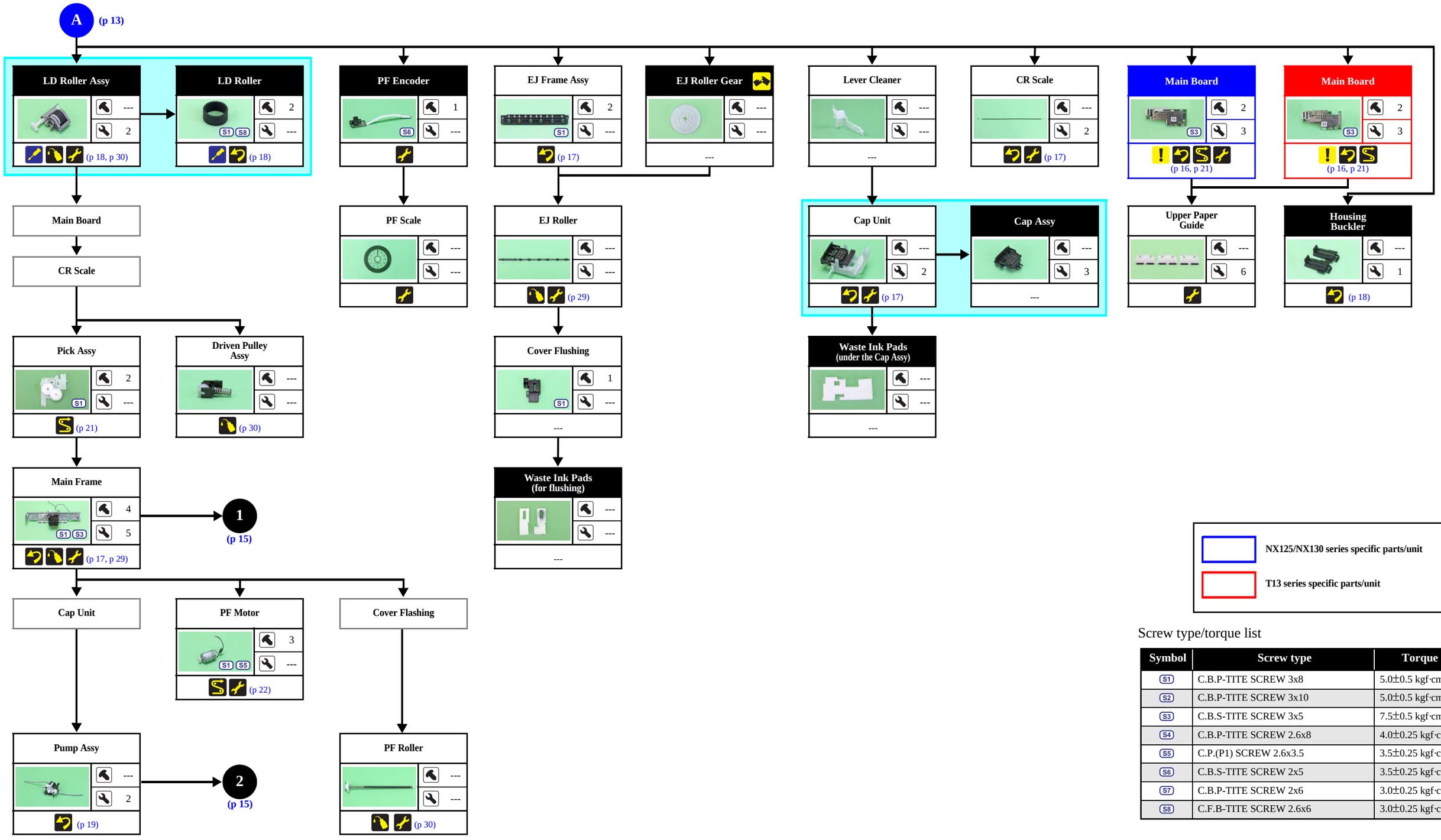


Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x8	5.0±0.5 kgf·cm
S2	C.B.P-TITE SCREW 3x10	5.0±0.5 kgf·cm
S3	C.B.S-TITE SCREW 3x5	7.5±0.5 kgf·cm
S4	C.B.P-TITE SCREW 2.6x8	4.0±0.25 kgf·cm
S5	C.P.(P1) SCREW 2.6x3.5	3.5±0.25 kgf·cm
S6	C.B.S-TITE SCREW 2x5	3.5±0.25 kgf·cm
S7	C.B.P-TITE SCREW 2x6	3.0±0.25 kgf·cm
S8	C.F.B-TITE SCREW 2.6x6	3.0±0.25 kgf·cm

Flowchart 1-1. Disassembling Flowchart of Housing Part

1.2.2.2 Printer Mechanism Part



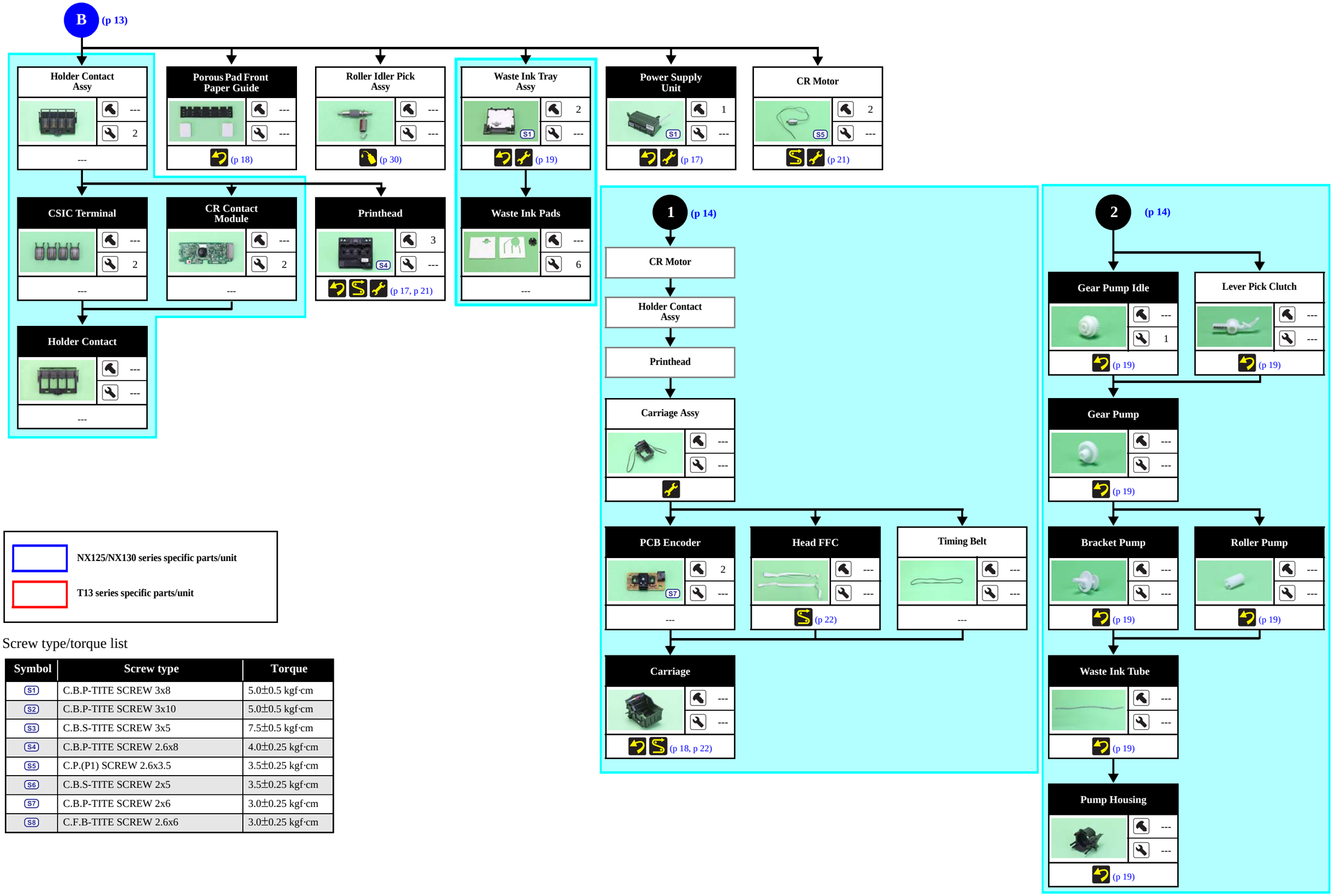
NX125/NX130 series specific parts/unit

T13 series specific parts/unit

Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x8	5.0±0.5 kgf·cm
S2	C.B.P-TITE SCREW 3x10	5.0±0.5 kgf·cm
S3	C.B.S-TITE SCREW 3x5	7.5±0.5 kgf·cm
S4	C.B.P-TITE SCREW 2.6x8	4.0±0.25 kgf·cm
S5	C.P.(P1) SCREW 2.6x3.5	3.5±0.25 kgf·cm
S6	C.B.S-TITE SCREW 2x5	3.5±0.25 kgf·cm
S7	C.B.P-TITE SCREW 2x6	3.0±0.25 kgf·cm
S8	C.F.B-TITE SCREW 2.6x6	3.0±0.25 kgf·cm

Flowchart 1-2. Disassembling Flowchart of Printer Mechanism Part (1)



NX125/NX130 series specific parts/unit

T13 series specific parts/unit

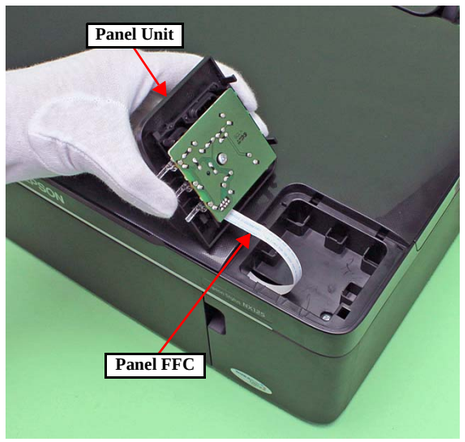
Screw type/torque list

Symbol	Screw type	Torque
S1	C.B.P-TITE SCREW 3x8	5.0±0.5 kgf·cm
S2	C.B.P-TITE SCREW 3x10	5.0±0.5 kgf·cm
S3	C.B.S-TITE SCREW 3x5	7.5±0.5 kgf·cm
S4	C.B.P-TITE SCREW 2.6x8	4.0±0.25 kgf·cm
S5	C.P.(P1) SCREW 2.6x3.5	3.5±0.25 kgf·cm
S6	C.B.S-TITE SCREW 2x5	3.5±0.25 kgf·cm
S7	C.B.P-TITE SCREW 2x6	3.0±0.25 kgf·cm
S8	C.F.B-TITE SCREW 2.6x6	3.0±0.25 kgf·cm

Flowchart 1-3. Disassembling Flowchart of Printer Mechanism Part (2)

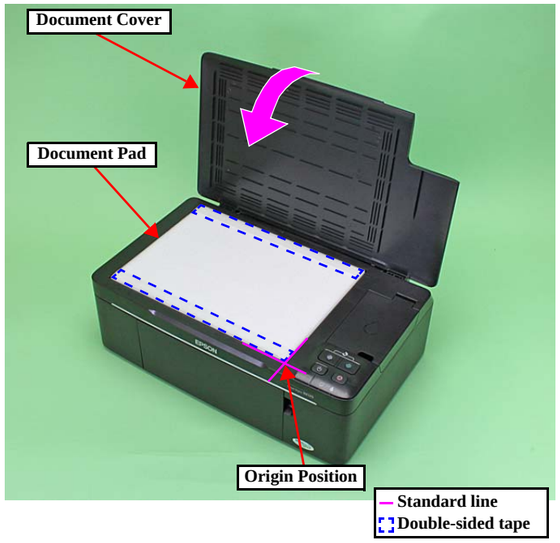
1.3 Details of Disassembling/Assembling by Parts/Unit

Panel Unit (NX125/NX130 series)



!	Do not lift the Panel Unit too fast, since the Panel FFC is connected to the back of the Panel Unit.

Document Pad (NX125/NX130 series)

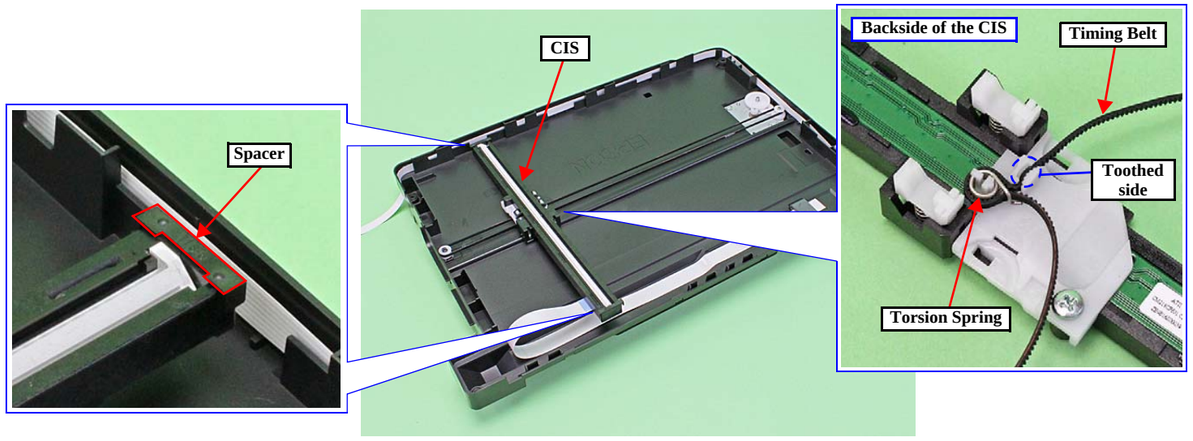


	When installing the Document Pad, follow the procedure below. 1. Place the Document Pad with the side where the double-sided tape attached upward on the document glass aligning its corner with the origin position. 2. Close the Document Cover to attach the Document Pad.

Scanner Unit (NX125/NX130 series)

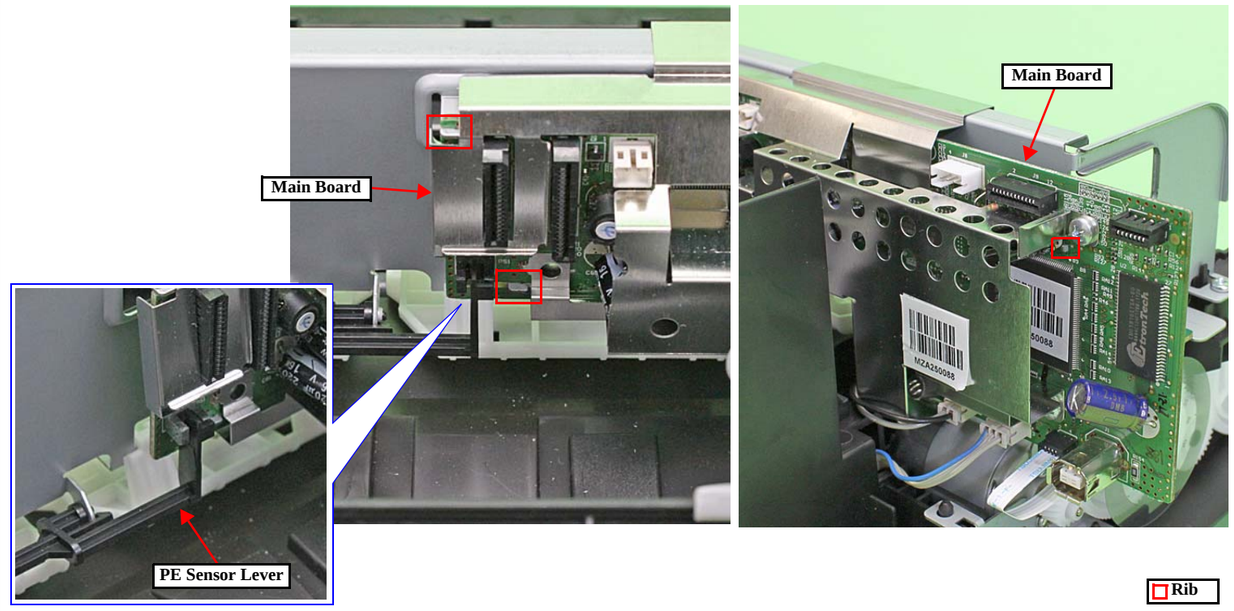
!	Do not lift the Scanner Unit too fast, since the Panel FFC, Scanner Motor cable and Scanner FFC are connected to the rear side of the Scanner Unit.
	Tighten the screws in the order indicated in figure above.

CIS (NX125/NX130 series)



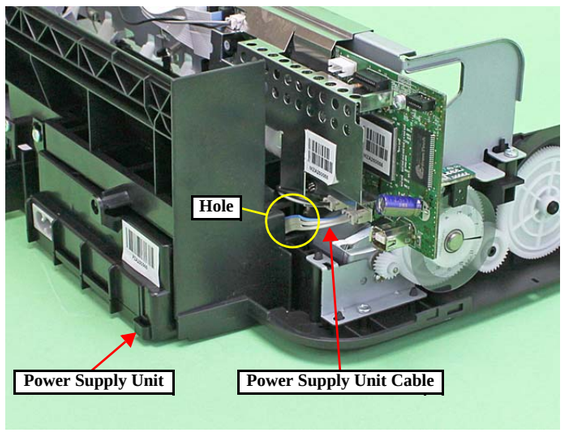
!	Be careful not to lose the Spacer because it comes off easily when disassembling the CIS.
	■ When installing the spacers, be sure to place them with the cutout facing inward. ■ Align the toothed side of the Timing Belt with the same shaped rib of the backside of the CIS, and secure the Timing Belt with Torsion Spring.

Main Board



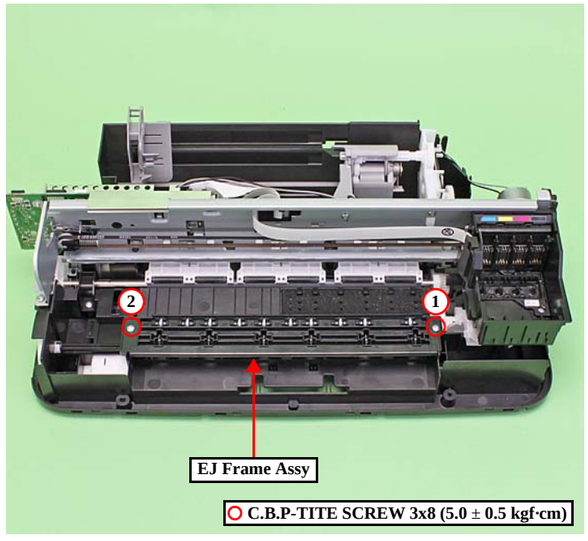
!	Take care not to damage the PE Sensor Lever.
	Align the ribs (x3) of the Main Frame with the cutouts of the Main Board.

Power Supply Unit



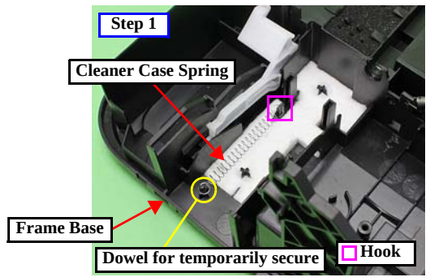
Route the Power Supply Unit cable through the hole of the Frame Base.

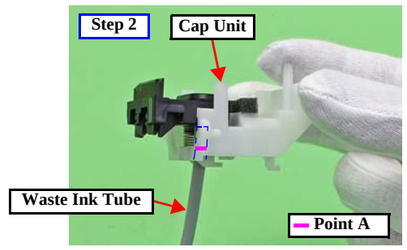
EJ Frame Assy

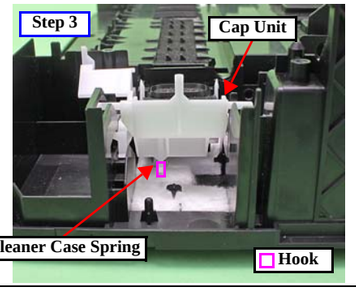


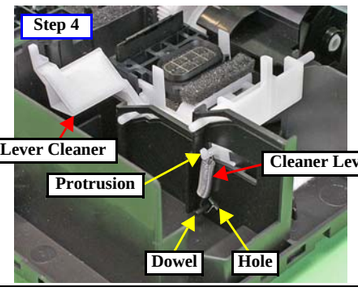
Tighten the screws in the order indicated in figure above.

Cap Unit





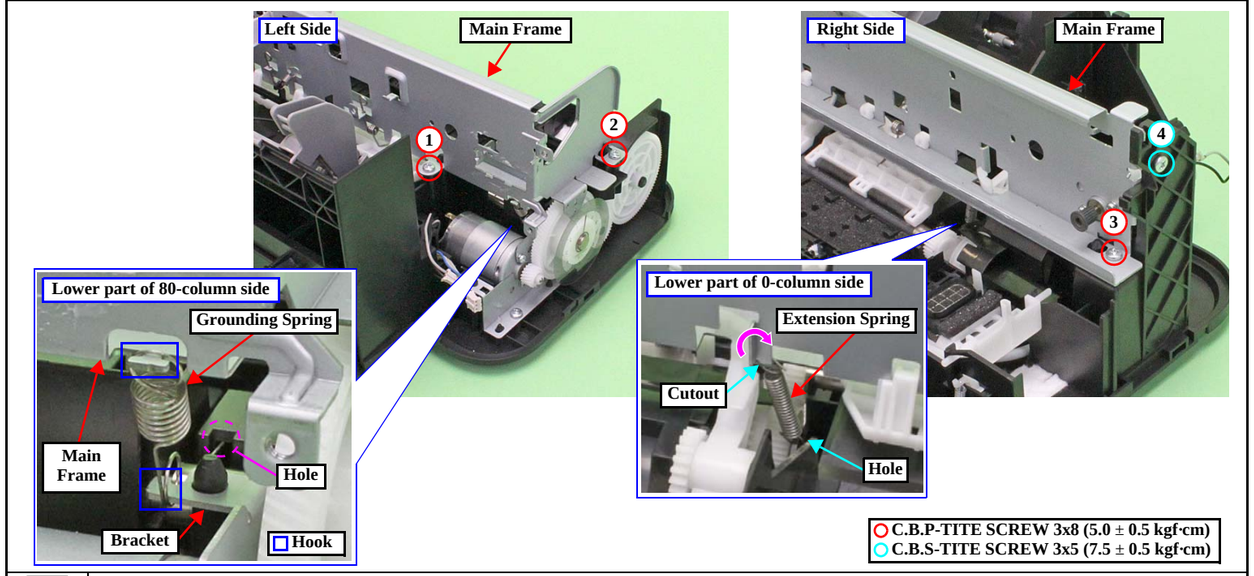




When installing the Cap Unit, follow the instruction below.

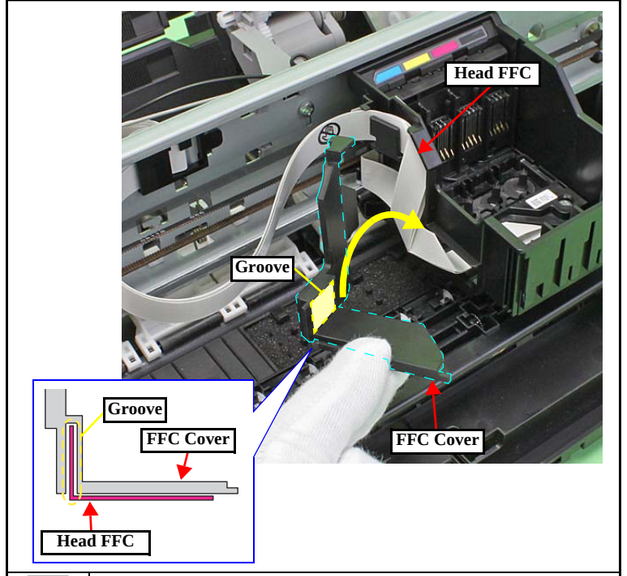
1. Temporarily secure the Cleaner Case Spring to the hook and dowel of the Frame Base.
2. Insert the Waste Ink Tube to the Cap Unit until point A (p 19) is hidden.
3. Install the Cap Unit to the Frame Base, and attach the Cleaner Case Spring which is secured temporary earlier to the hook on the Cap Unit.
4. Insert one leg of the Cleaner Lever Spring to the hole of the Frame Base, and secure it to the dowel of the Frame Base, then secure the other leg to the protrusion of the Lever Cleaner.

Main Frame



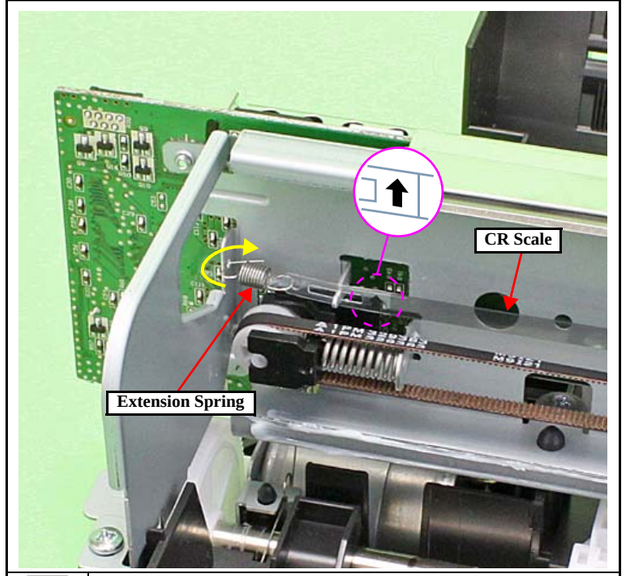
- When installing the Grounding Spring of the lower part of the 80-digit side, follow the instruction below.
  1. Insert the tip of the spring to the hole of the Frame Base.
  2. Attach the eye of the spring to the Bracket and secure the other eye to the hook on the Main Frame.
- When installing the Extension Spring of the lower part of the 0-digit side, attach the tip of the Extension Spring to the hole of the Frame Base first. Then attach the leg of the spring to the cutout of the Main Frame from the left side as seen from the rear of the printer.
- Tighten the screws in the order indicated in figure above.

Printhead



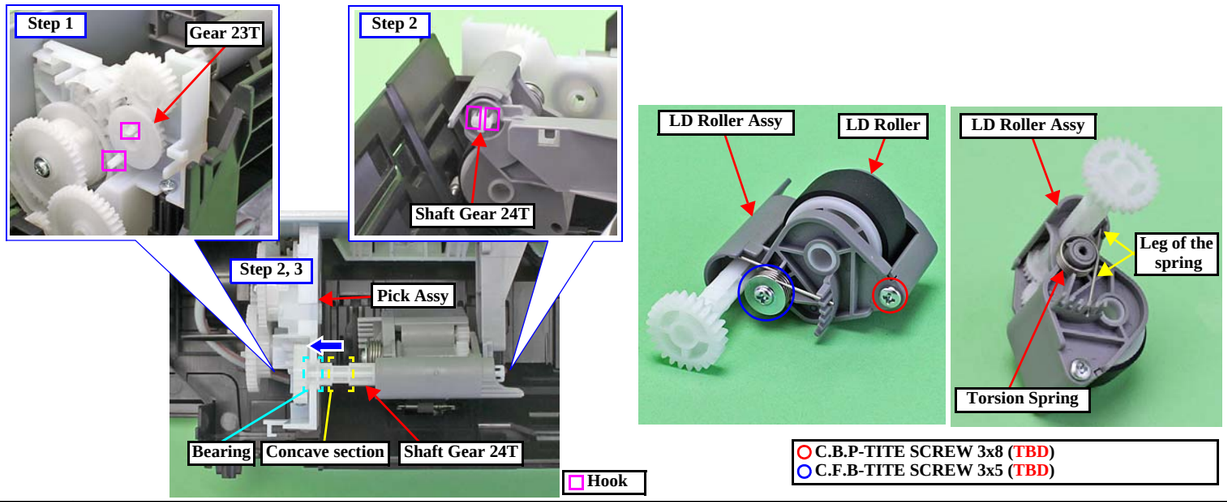
Insert the folded part of the Head FFC into the groove of the FFC Cover.

CR Scale



- When installing the CR Scale, confirm that the arrows on both the edges of the CR Scale face upward.
- When installing the Extension Spring, be sure to attach it with its leg facing the rear of the printer.

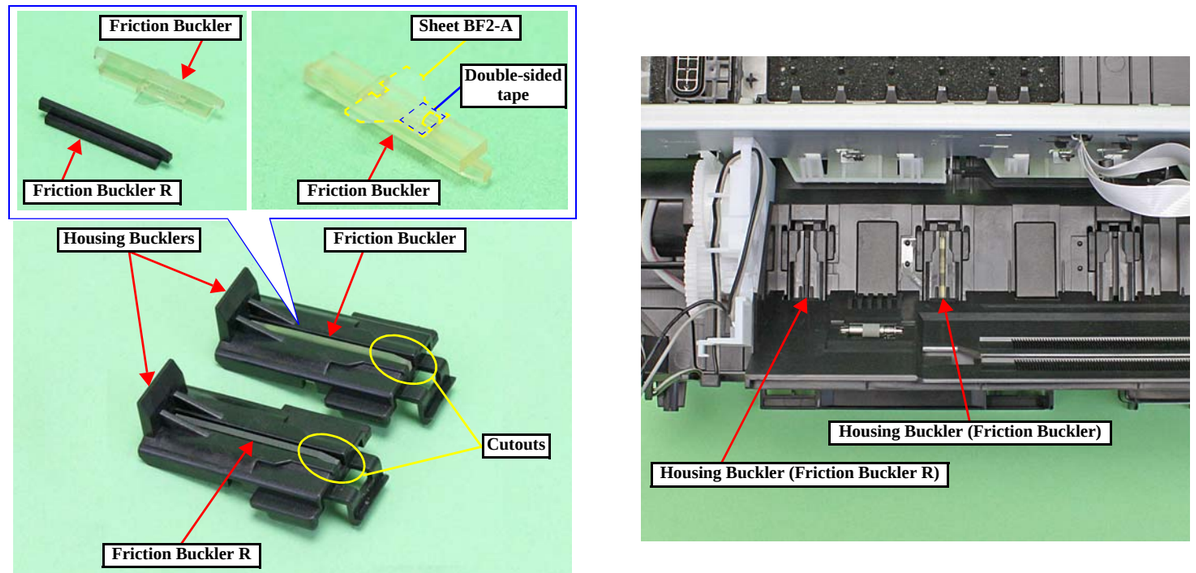
LD Roller Assy



- When removing the LD Roller Assy, follow the procedure below.
  1. Release the hooks (x2) and remove the Gear 23T.
  2. Release the hooks (x2) and slide the Shaft Gear 24T to the 0-digit side until the concave section of the gear comes to the bearing part of the Pick Assy.
  3. Remove the LD Roller Assy upward.
- When removing the LD Roller, remove the screws (x2) shown in the figure above.

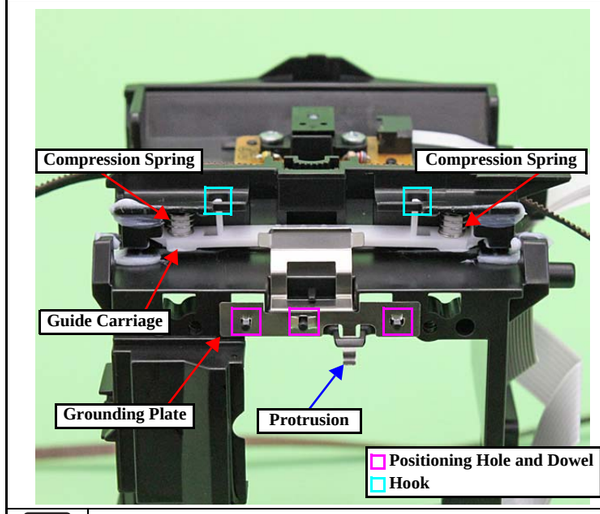
When install the Torsion Spring, make sure to align the leg to the position as shown above.

Housing Buckler



- When installing the Friction Buckler and Friction Buckler R to the Housing Buckler, pay attention to the following instructions.
  - Remove the Sheet BF2-A on the rear side of the Friction Buckler to be replaced, and secure the removed sheet with double-sided tape to the new Friction Buckler.
  - Install the friction bucklers to the Housing Bucklers with the cutouts facing forward.
- Install the buckler to the position as shown above.

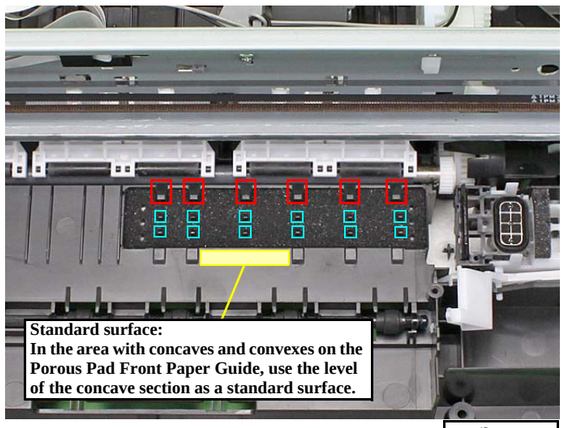
Carriage



When replacing the Carriage, be careful about the following and remove the Grounding Plate, Guide Carriage, Compression Springs from the Carriage to be replaced, then attach them to the new Carriage as shown in the figure above.

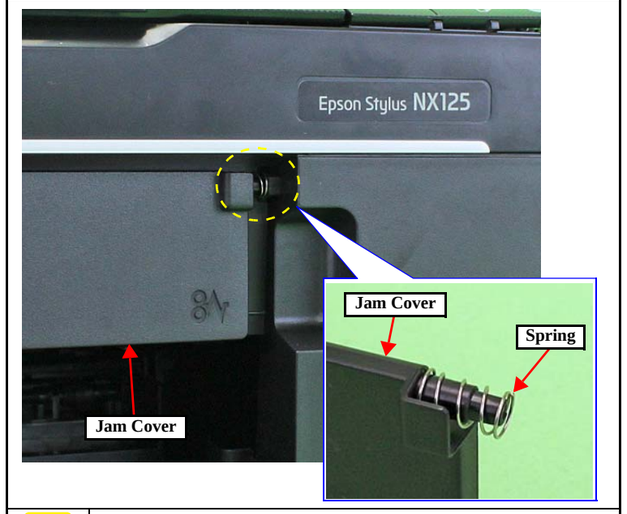
- Insert the protrusion of the Grounding Plate to the hole of the Carriage, and align the dowels (x3) of the Carriage with the positioning holes (x3) of the Grounding Plate.
- Secure hooks (x2) of the Guide Carriage by attaching them on the holes (x2) of the Carriage.

Porous Pad Front Paper Guide



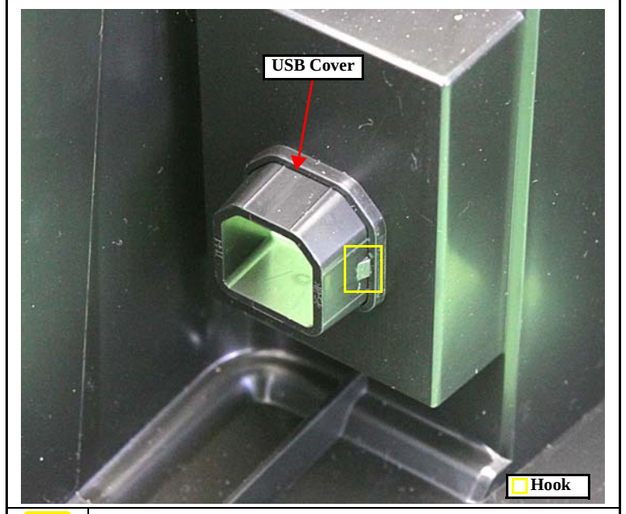
When installing the Porous Pad Front Paper Guide, align the pad with the ribs and protrusions of the Platen. After installing the pad, make sure to fit it evenly 1.5mm lower than the standard surface.

Jam Cover



When removing the Jam Cover, be careful not to lose the spring installed to the dowel on the right side.

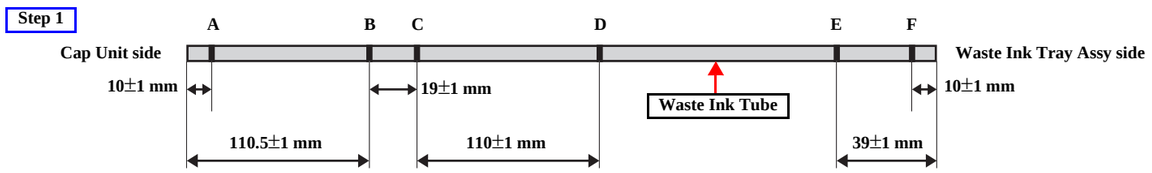
USB Cover

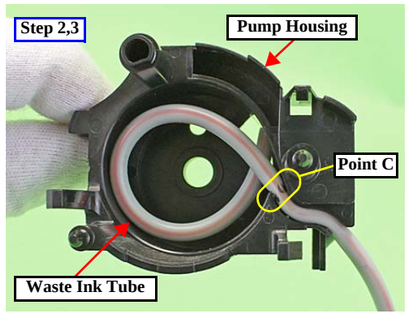


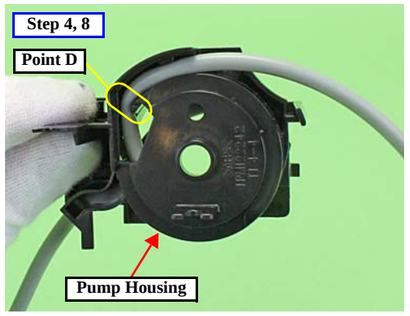
The USB Cover cannot be re-used once it is removed. Whenever the cover is removed, make sure to replace it with a new one.

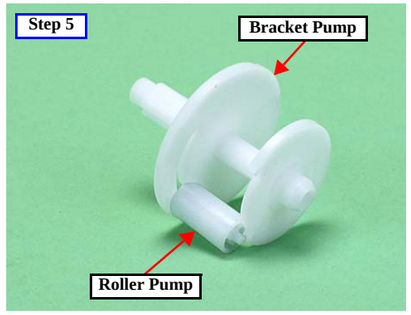
When removing the USB Cover, cut the hook securing the USB Cover with a nipper. Be careful not to damage the Upper Housing then.

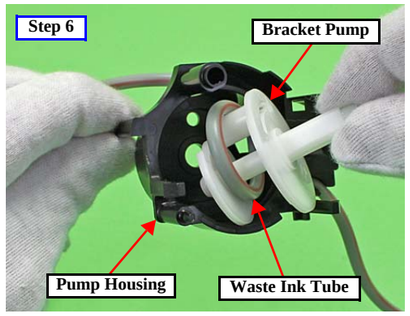
Gear Pump Idle/ Gear Pump/ Bracket Pump/ Roller Pump/ Waste Ink Tube/ Pump Housing

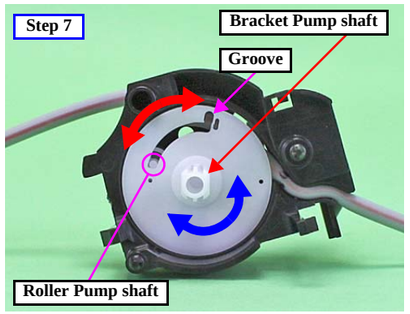


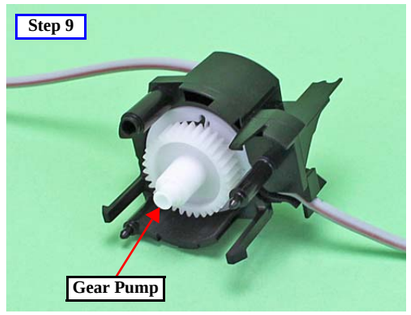


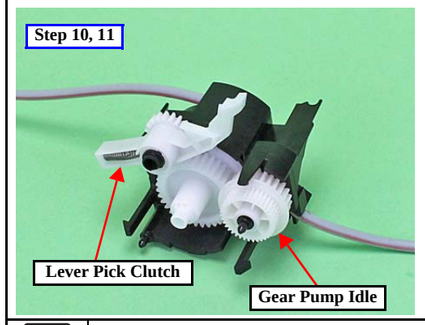








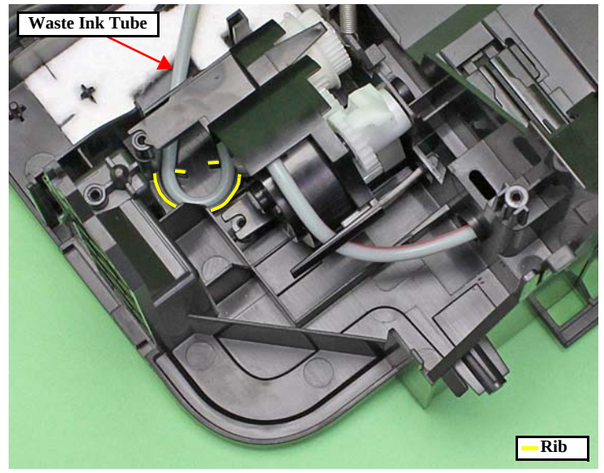




When assembling the Pump Assy, follow the instructions below.

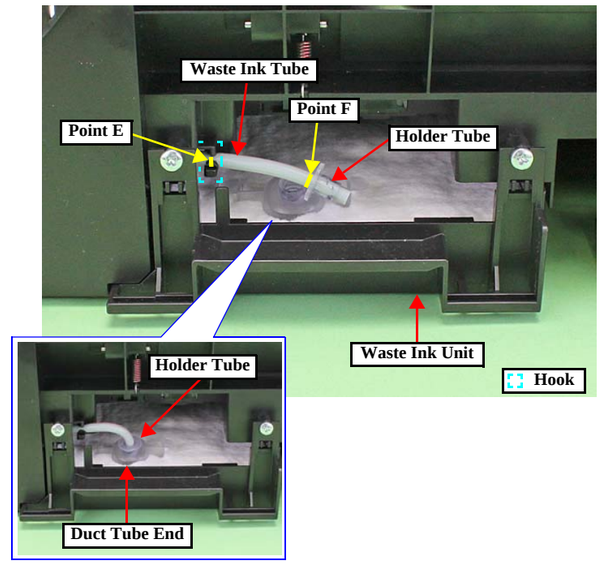
1. Make six points on the Waste Ink Tube.
2. Insert the Waste Ink Tube in the hole of the Pump Housing with the red line of the tube set as shown in the figure above.
3. Secure point C of the Waste Ink Tube to the point C of the Pump Housing.
4. Secure point D of the Waste Ink Tube to the point D of the Pump Housing.
5. Install the Roller Pump to the Bracket Pump.
6. Set the Waste Ink Tube inside the Bracket Pump, and install the Bracket Pump to the Pump Housing.
7. Rotate the Bracket Pump shaft and make sure that the Roller Pump shaft moves to both ends in the groove.
8. Make sure that point D is placed in the correct position.
9. Install the Gear Pump.
10. Install the Gear Pump Idle.
11. Install the Lever Pick Clutch.

Pump Assy



- Route the Ink Tube along the ribs on the Frame Base.
- After installing the Ink Tube, make sure that no part of the tube is pressed flat.

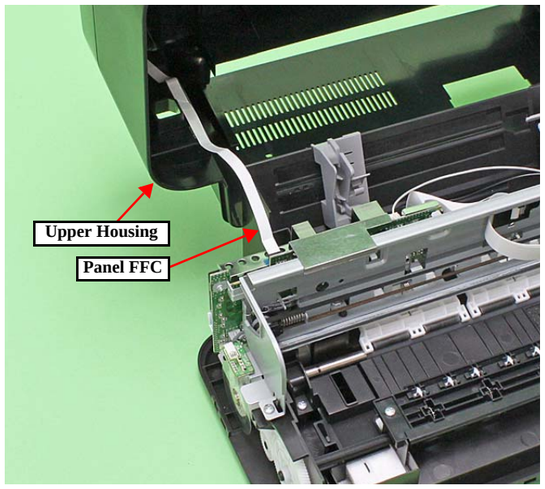
Waste Ink Tray Assy

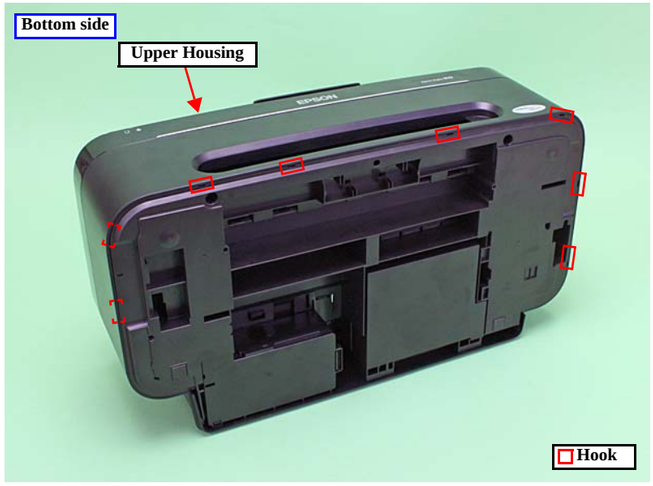


When installing the Waste Ink Tube, pay attention to the following instructions.

- Align and secure the point E (p 19) of the Waste Ink Tube to the hook on the Frame Base.
- Insert the Holder Tube up to the point F (p 19) of the Waste Ink Tube, and insert the holder into the Duct Tube End.

Upper Housing Assy (T13 series)

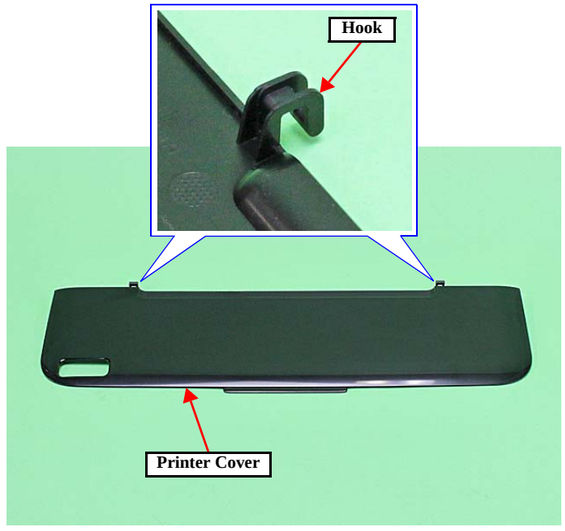




- Do not lift the Upper Housing too fast, since the Panel FFC is connected to the back of the Upper Housing.
- Be careful not to damage the hooks (x2) on the bottom left because these cannot be seen when removing.

- Lay the Printer with the rear side facing downward, and release the hooks (x8) from the hole on the bottom.

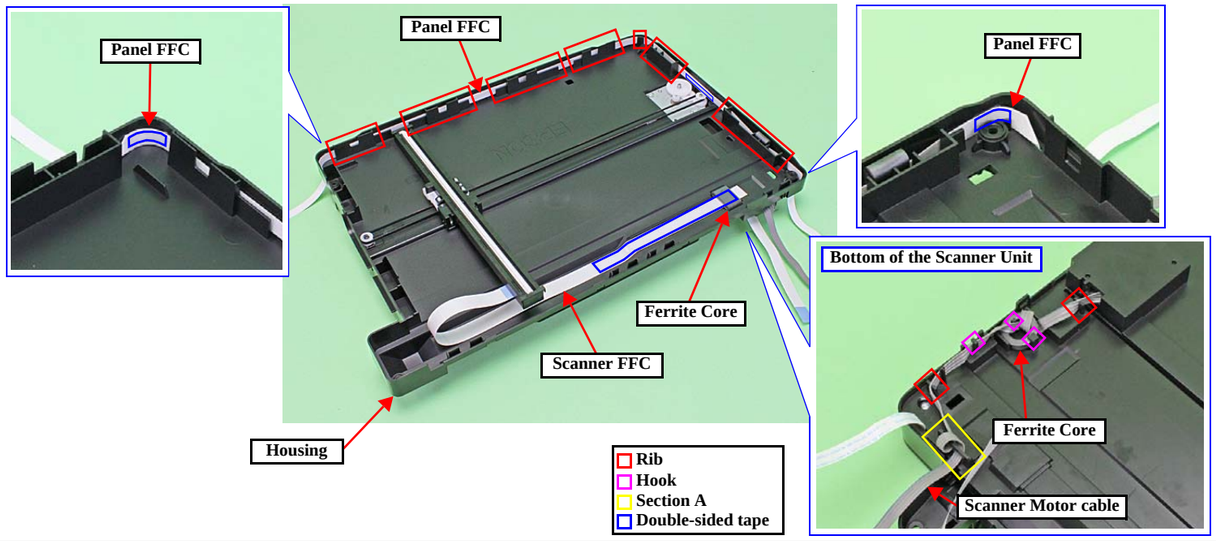
Printer Cover (T13 series)



Be careful when removing the Printer Cover, because the hooks (x2) are fragile and easily get damaged or softened.

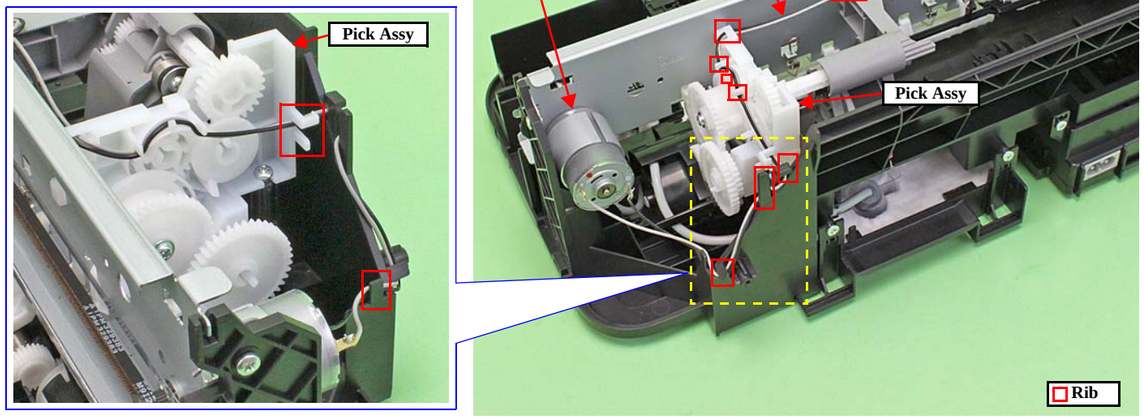
1.4 Routing FFC/cables

Scanner Unit /CIS (NX125/NX130 series)



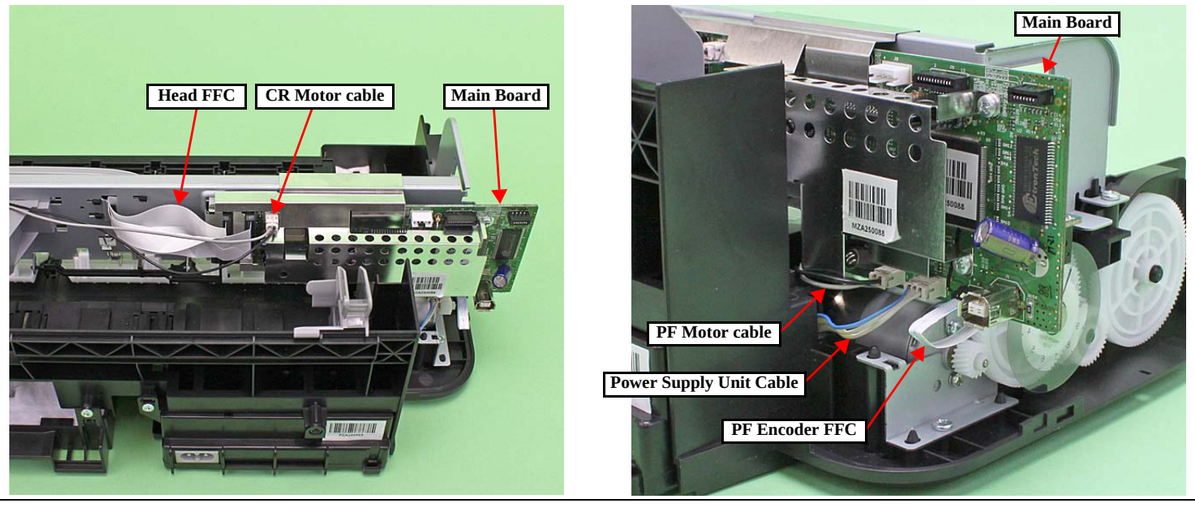
- When routing the Panel FFC, route it through the ribs (x7) of the Housing, and secure with double-sided tape (x3).
- When routing the Scanner FFC, secure it together with the Ferrite Core on the Housing with double-sided tape.
- When routing the Scanner Motor cable, pay attention to the following instructions.
  - Secure the Ferrite core with the hooks (x2) on the rear of the Scanner Unit.
  - Route the Scanner Motor cable through the ribs (x2) and hook (x1) on the rear of the Scanner Unit, and through the hole of the section A and make one turn around the frame of the section A.

CR Motor



- Route the CR Motor cable through the ribs (x10) and make one turn around the rib A.
- Route the CR Motor cable so as not to touch the surrounding gears.

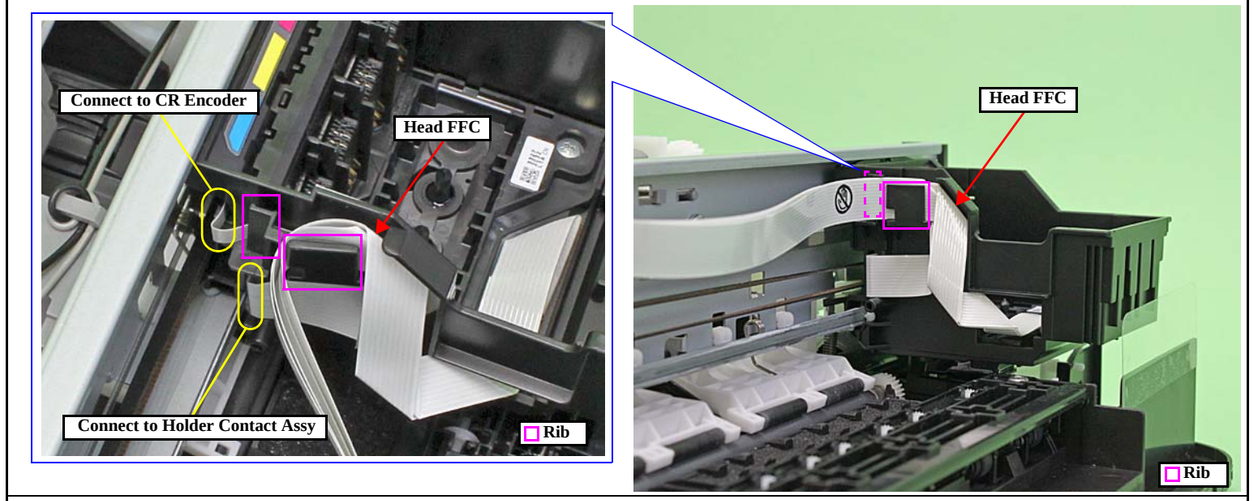
Main Board



Connect the following cable to the Main Board as shown in the figure above.

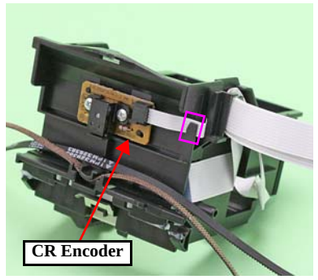
- PF Motor cable
- Power Supply Unit cable
- PF Encoder FFC
- CR Motor cable
- Head FFC

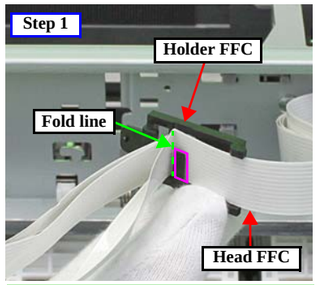
Printhead

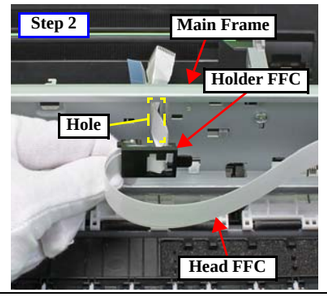


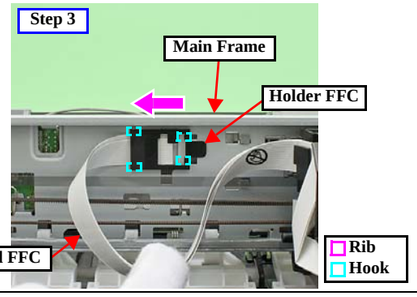
- Make sure that the Head FFC is connected to the Holder Contact Assy and CR Encoder.
- Route the Head FFC through the rib of the Carriage as shown above.

Head FFC





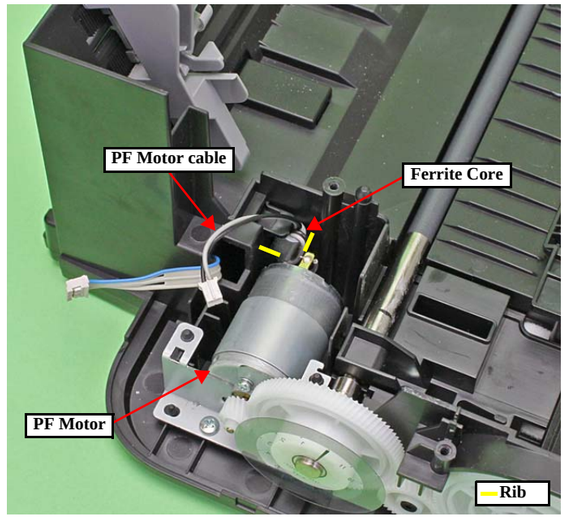




- When installing the Head FFC to the Carriage, route the Head FFC through the rib (x1) on the rear of the Carriage, and connect the Head FFC to the CR Encoder.
- When installing the Head FFC to the Main Frame, route the Head FFC in the procedure below and connect it to the Main Board.

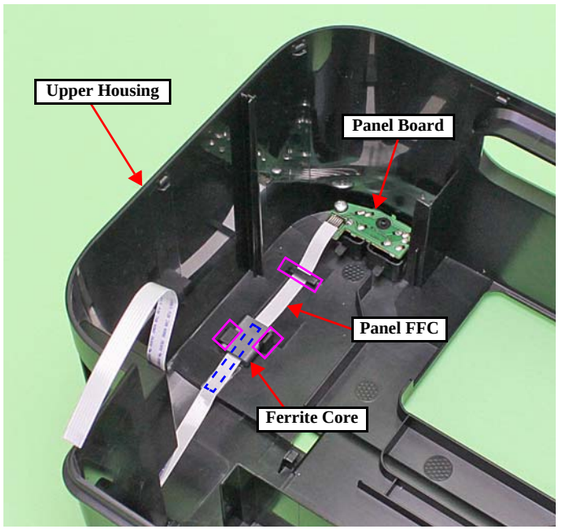
1. Align the fold line of the Head FFC with the rib (x1) of the Holder FFC, and route the FFC through the Holder FFC as shown in the figure above.
2. Route the Head FFC through the hole of the Main Frame.
3. Align the hooks (x4) of the Holder FFC with the holes (x4) on the Main Frame, and secure the Holder FFC to the Main Frame by sliding it to the 80-digit side.

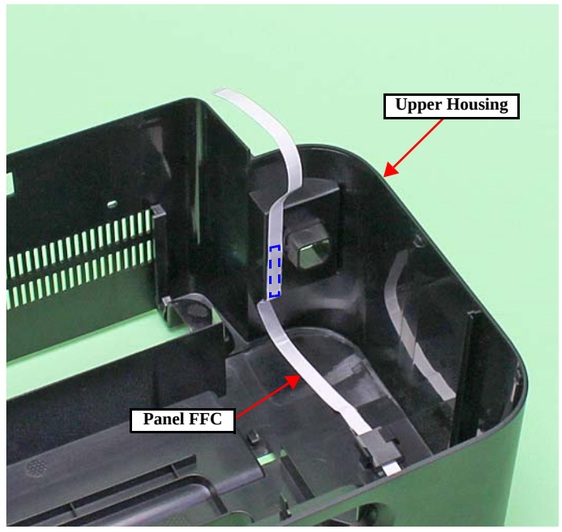
PF Motor



Set the Ferrite Core of the PF Motor cable into the ribs of the Frame Base.

Panel Board (T13 series)





Hook
Double-sided tape (8 x 20 mm)

When routing the Panel FFC, follow the instructions below.

1. Route it through the Ferrite Core and the hook (x1).
2. Secure the FFC with double-sided tape (x2) to the Upper Housing, and then secure the Ferrite core with the hooks (x2).

CHAPTER **2**

ADJUSTMENT

2.1 Required Adjustments

The table below lists the required adjustments depending upon the parts being repaired or replaced. Find the part(s) you removed or replaced, and check which adjustment(s) must be carried out.

Note: <Meaning of the marks in the table>
"O" indicates that the adjustment must be carried out. "O*" indicates that the adjustment is recommended. "---" indicates that the adjustment is not required. If you have removed or replaced multiple parts, make sure to check the required adjustments for the all parts. And when multiple adjustments must be carried out, be sure to carry out them in the order given in the "Priority" row.

- **When the EEPROM Data Copy cannot be made for the Main Board that needs to be replaced, the Waste Ink Tray Assy must be replaced after replacing the Main Board with a new one.**
- **After all required adjustments are completed, use the "Final check pattern print" function to print all adjustment patterns for final check. If you find a problem with the printout patterns, carry out the adjustment again.**
- **When using a new Main Board for replacing the Printer Mechanism, the Initial setting must have been made to the Main Board.**

In this chapter, the product names are called as follows:

- **NX125 series: Epson Stylus NX125/NX127/TX120/TX125/TX123/SX125/TX121/TX121x/TX129/ Epson ME 320/ME 350**
- **T13 series: Epson Stylus T13/TX13x/T12/N10/N11/T22/T25/S22/T22E/Epson ME 32/ME 35**
- **NX130 series: Epson Stylus NX130/TX130/TX133/TX135/SX130/ME 340**

Table 2-1. Required Adjustment List

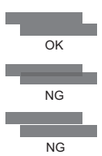
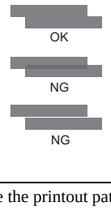
Priority			1	2	3	4	5	6	7	8	9
Adjustment Item			EEPROM data copy	Initial setting	Waste ink pad counter	Ink charge	Head ID input	Top margin adjustment	Head angular adjustment	Bi-D adjustment	PF band adjustment
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To apply settings for the target market after replacing the Main Board.	To reset the waste ink counter after replacing the Waste Ink Pad.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To correct characteristic variation of the replaced printhead by entering its Printhead ID (Head ID).	To correct top margin of printout.	To correct tilt of the Printhead caused at the installation by software.	To correct print start timing in bi-directional printing by software.	To correct variations in paper feed accuracy in order to achieve higher print quality in band printing.
Part Name	Main board	Remove	---	---	---	---	---	O	O	O	O
		Replace (Read OK)	O	---	---	---	---	---	---	---	---
		Replace (Read NG)	---	O	O (Replace the pad)	---	O	O	O	O	O
	Printhead	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	O	O	O	O	O	O
	Power Supply Unit	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	LD Roller Assy	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	CR Motor	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	EJ Roller	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	Main Frame	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	Carriage Assy	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
Printout pattern			---	---	---	---	---	See Figure 2-1.			
How to judge			---	---	---	---	---	Check if the top edge of the paper is within -3 to +3 steps from the standard line. See " 2.2 Revision FDetails of Adjustments (p26)" for the details.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.
Adjustment program			O	O	O	O	O	O	O	O	O
Tool			---	---	---	---	---	---	---	---	---

Table 2-1. Required Adjustment List

Priority			1	2	3	4	5	6	7	8	9
Adjustment Item			EEPROM data copy	Initial setting	Waste ink pad counter	Ink charge	Head ID input	Top margin adjustment	Head angular adjustment	Bi-D adjustment	PF band adjustment
Purpose			To copy adjustment values or the like stored on the old Main Board to the new board when the Main Board needs to be replaced.	To apply settings for the target market after replacing the Main Board.	To reset the waste ink counter after replacing the Waste Ink Pad.	To fill ink inside the new Printhead to make it ready for print after replacing the Printhead.	To correct characteristic variation of the replaced printhead by entering its Printhead ID (Head ID).	To correct top margin of printout.	To correct tilt of the Printhead caused at the installation by software.	To correct print start timing in bi-directional printing by software.	To correct variations in paper feed accuracy in order to achieve higher print quality in band printing.
Part Name	Upper Paper Guide	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	PF Roller	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	Waste Ink Pads	Remove	---	---	---	---	---	O	O	O	---
		Replace	---	---	O	---	---	O	O	O	---
	Cap Unit	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	PF Motor	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	PF Encoder/ PF Scale	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
	CR Scale	Remove	---	---	---	---	---	O	O	O	O
		Replace	---	---	---	---	---	O	O	O	O
Printout pattern			---	---	---	---	---	See Figure 2-1.			
How to judge			---	---	---	---	---	Check if the top edge of the paper is within -3 to +3 steps from the standard line. See " 2.2 Revision FDetails of Adjustments (p26)" for the details.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns for each of the four modes, and enter the value for the pattern with no gap and overlap for each mode.	Examine the printout patterns and enter the value for the pattern with no overlap and gap between the two rectangles.
Adjustment program			O	O	O	O	O	O	O	O	O
Tool			---	---	---	---	---	---	---	---	---

2.2 Revision FDetails of Adjustments

This section provides adjustment procedures for which explanation in details is necessary. See " 2.1 Required Adjustments (p24)" for the adjustments not explained here.

2.2.1 TOP Margin Adjustment

Three adjustment patterns are printed on the top of the paper as shown in Figure 2-1.

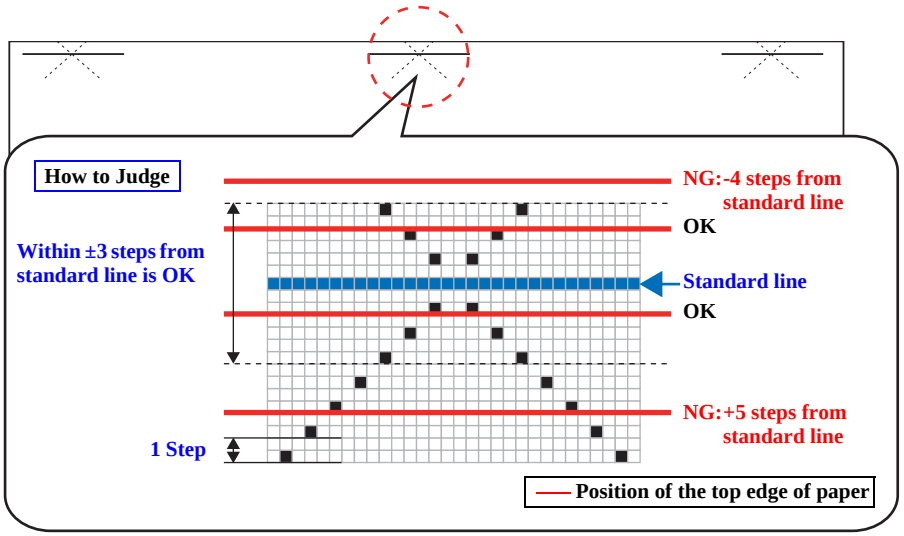


Figure 2-1. Top Margin Adjustment Printout Pattern

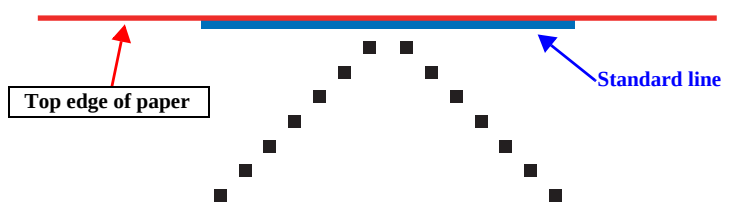
How to Judge

Check if the top edge of the paper is within -3 to +3 steps from the standard line.

Additional Information

If it is not within the OK range, select the adjustment value (-4 to +4 steps) on the adjustment program to adjust the top edge of paper until it becomes within -3 to +3 steps from the standard line. Then, print the adjustment pattern again to check the result.

- **The patterns are printed on three sections. If those three patterns are in different position to the top edge of paper, the paper was fed on a skew. Set the papers correctly and print it again to adjust the top margin correctly.**
- **The following pattern is printed with the optimal adjustment value.**



CHAPTER **3**

MAINTENANCE

3.1 Overview

This section provides information to maintain the printer in its optimum condition.

In this chapter, the product names are called as follows:

- **NX125 series: Epson Stylus NX125/NX127/TX120/TX125/TX123/SX125/TX121/TX121x/ TX129/Epson ME 320/ME 330/ME 350**
- **T13 series: Epson Stylus T13/T13x/T12/N10/N11/T22/T25/S22/T22E/ Epson ME 10/ME 32/ME 33/ME 35**
- **NX130 series: Epson Stylus NX130/TX130/TX133/TX135/SX130/Epson ME 340**

3.1.1 Cleaning

Except for the printhead, there are no other mechanism components that require periodic cleaning. However, if need arises, clean the component observing the following instructions.

☐ Instructions for cleaning

- Exterior parts such as housing
  Wipe dirt off with a soft clean cloth moistened with water. For parts with glossy surfaces or transparent parts, use of unwoven cloth is recommended to avoid scratching those parts.
- Inside of the printer
  Remove paper dust with a vacuum cleaner.
- Rubber or plastic rollers such as an LD roller used to feed paper
  If paper dust adhered to the rollers decreases the frictional force of the rollers and the rollers cannot properly feed paper, wipe off the paper dust with a soft cloth moistened with diluted alcohol.

☐ Instructions for cleaning ink stains

Wipe the stains off with a cloth wrung out of diluted alcohol.

- **Do not use alcohol for cleaning the transparent parts. Doing so may cause them to get cloudy.**
- **When wiping paper dust off the LD roller, be careful not to rub against the surface asperity.**
- **To minimize the effect on the parts, use diluted alcohol such as 70% diluted ether.**
- **After using alcohol for cleaning, make sure to wipe the part off with a soft dry dust-free cloth to remove alcohol traces fully.**

3.1.2 Lubrication

The type and amount of the grease used to lubricate the printer parts are determined based on the results of the internal evaluations. Therefore, refer to " 3.2 Lubrication Point (p29)" for the repairing procedures below, and apply the specified type and amount of the grease to the specified part of the printer mechanism.

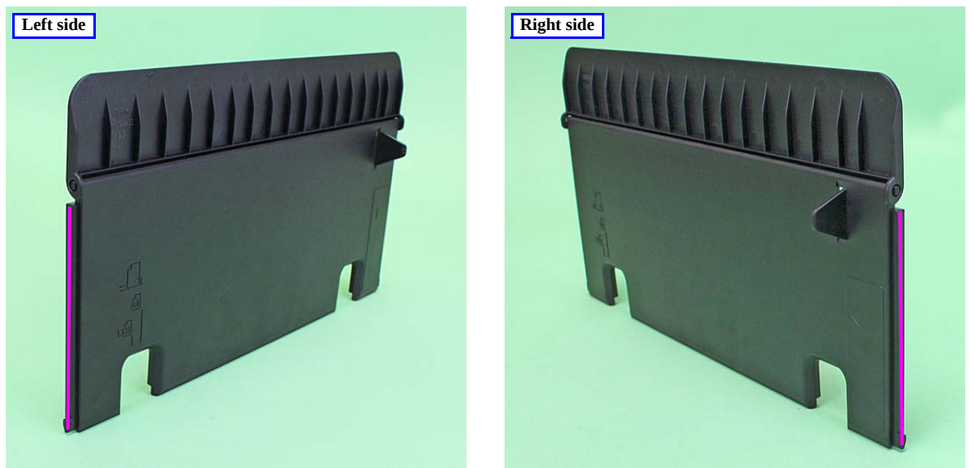
☐ Grease

Type	Name	EPSON Part Code	Supplier
Grease	G-94	1561125 / 1561123(for ECC)	EPSON
Grease	G-71	1480655	EPSON
Grease	G-74	1409257	EPSON

☐ Tools

Name	Availability	EPSON Part Code
Injector	O	---
Brush	O	---

3.2 Lubrication Point



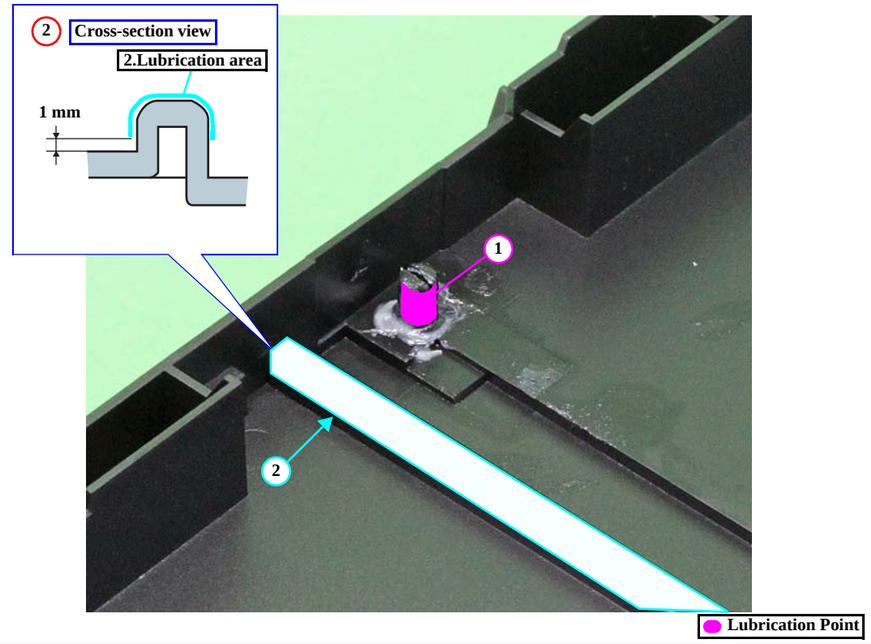
<Lubrication Point>
Rail of the Paper Support Assy

<Type>
G-74

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with brush.
- Keep the lubrication within the rail. (No grease outside of the rail is allowed.)

Figure 3-1. Lubrication on Paper Support Assy (NX125/NX130 series)



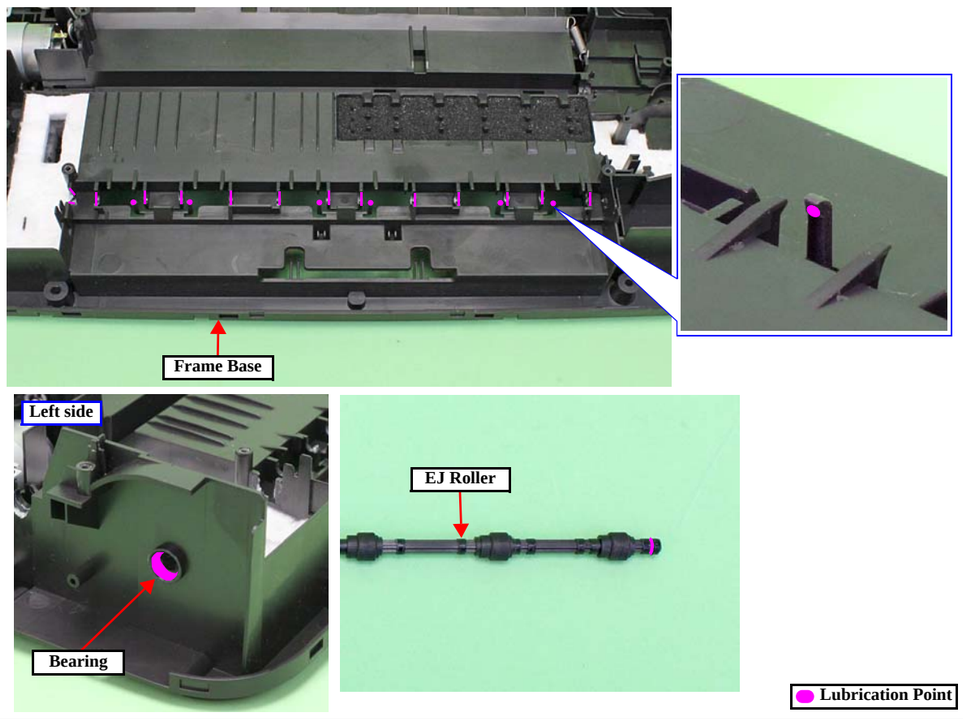
<Lubrication Point>
Shaft on the Scanner Housing

<Type>
1.G-94
2.G-94

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with brush.
- Keep the lubrication within the rail. (No grease outside of the rail is allowed.)

Figure 3-2. Lubrication on Scanner Unit



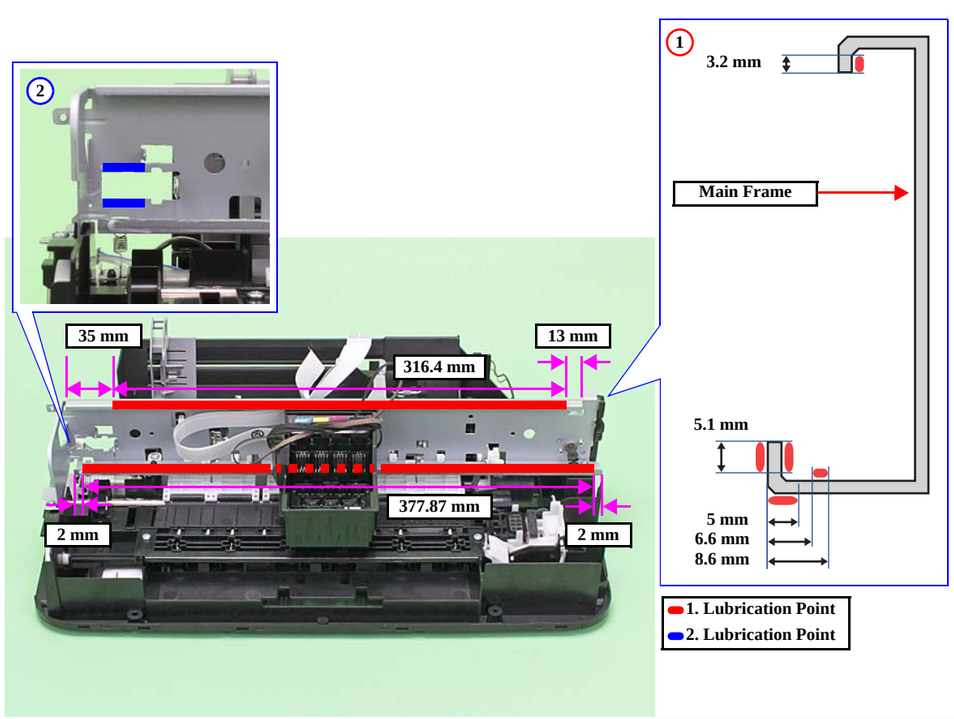
<Lubrication Point>
- Ribs (x20) of the Frame Base (contacting points with the EJ Roller)
- Bearings of the Frame Base (contacting points with the EJ Roller)
- Shaft on the right side of the EJ Roller

<Type>
G-71

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with injector.

Figure 3-3. Lubrication on EJ Roller



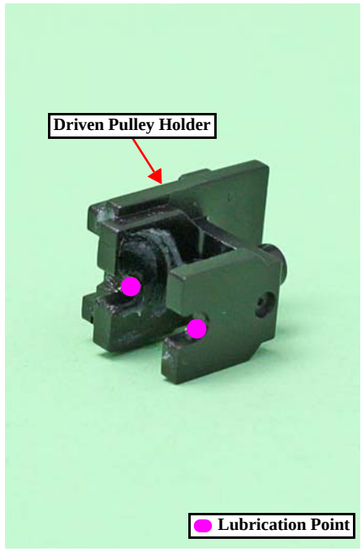
<Lubrication Point>
- 1.Contacting points (x5) with the Carriage Unit on the front side of the Main Frame
- 2.Contacting points (x2) with the Driven Pulley Holder

<Type>
1. G-71
2. G-71

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with injector.
- Lubrication area:
  - Top side of the Main Frame: 316.4 mm (x1)
  - Bottom side of the Main Frame: 377.87 mm (x4)

Figure 3-4. Lubrication on Main Frame



<Lubrication Point>
Contacting points (x2) with the Driven Pulley

<Type>
G-71

<Application Amount>
Size of a grain of rice

<Remarks>
- Wipeout grease.
- Apply with injector.

Figure 3-5. Lubrication on Driven Pulley Holder

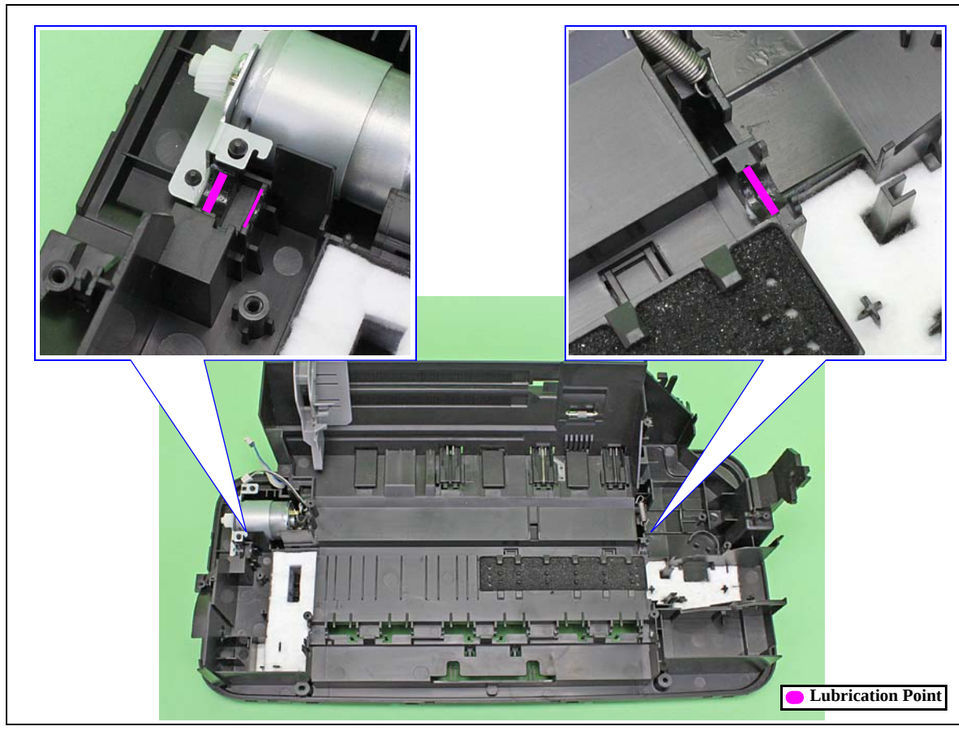
<Lubrication Point>
Sliding surface between the Roller Idler Pick and Spring Roller Idler Pick

<Type>
G-74

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with brush.

Figure 3-6. Lubrication on Roller Idler Pick Assy



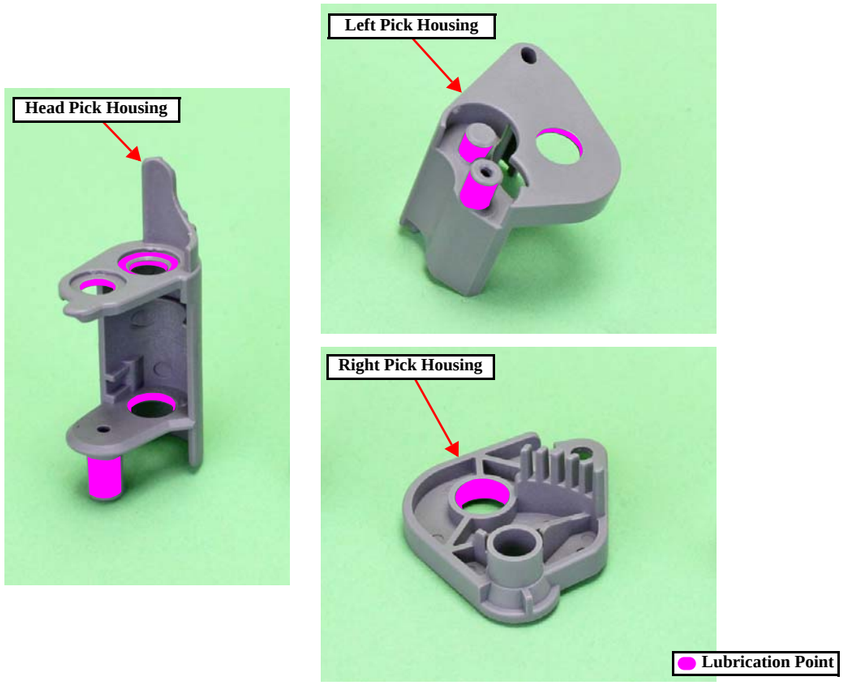
<Lubrication Point>
Ribs (x3) of the Frame Base (contacting points with the PF Roller)

<Type>
G-71

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with injector.

Figure 3-7. Lubrication on PF Roller



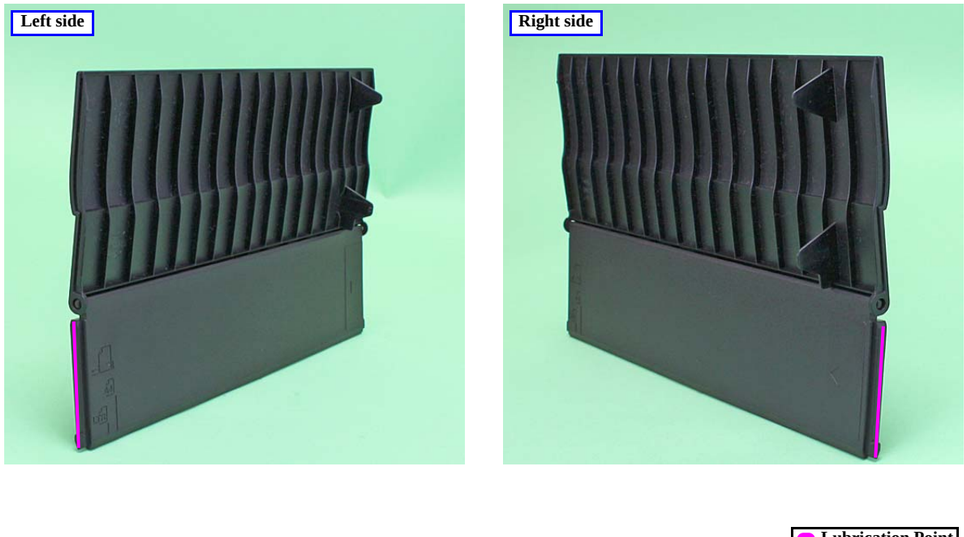
<Lubrication Point>
- Contacting points (x5) between the shafts and bushings of the Head Pick Housing
- Contacting point (x1) with the Right Pick Housing
- Contacting points (x3) between the shafts and bushings of the Left Pick Housing

<Type>
G-71

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with injector.

Figure 3-8. Lubrication on LD Roller Assy



<Lubrication Point>
Rail of the Paper Support Assy

<Type>
G-74

<Application Amount>
Sufficient quantity

<Remarks>
- Wipe out grease.
- Apply with brush.
- Keep the lubrication within the rail. (No grease outside of the rail is allowed.)

Figure 3-9. Lubrication on Paper Support Assy (T13 series)

CHAPTER **4**

APPENDIX

4.1 Power-On Sequence

This section describes the power-on sequences for this product. The preconditions are as follows.

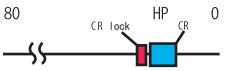
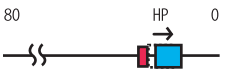
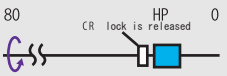
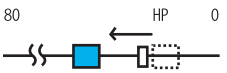
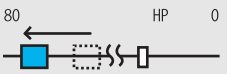
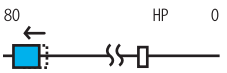
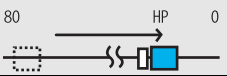
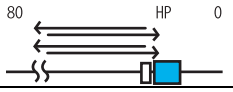
In this chapter, the product names are called as follows:

- **NX125 series: Epson Stylus NX125/NX127/TX120/TX125/TX123/SX125/TX121/TX121x/TX129/Epson ME 320/ME 330/ME 350**
- **T13 series: Epson Stylus T13/T13x/T12/N10/N11/T22/T25/S22/T22E/Epson ME 10/ME 32/ME 33/ME 35**
- **NX125 series: Epson Stylus NX130/TX130/TX133/TX135/SX130/Epson ME 340**

☐ Condition

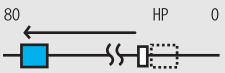
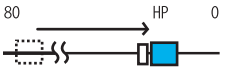
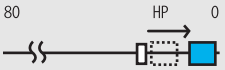
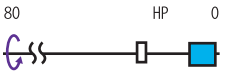
- Completing ink charge.
- No paper on the paper path.
- The Printhead is capped with the Cap of the Ink System.
- The Carriage is locked by the CR Lock.

Table 4-1. Operation of the power-on sequence

Operation*1	Carriage/PF roller movement and position*2
1. Checking waste ink overflow 1-1.Reads out the protection counter value to check waste ink overflow.	
2. Seeking the home position 2-1.The carriage moves to the 80-digit side slowly and confirms it touches the CR lock.	
2-2.The carriage moves to the 0-digit side slowly to leave from the CR lock.	
2-3.Checks if paper does not exist with the PE sensor and the PF Motor rotates clockwise to release the CR lock.	
2-4.The carriage moves to the 80-digit side slowly and confirms that the CR lock is released.	
2-5.The carriage quickly moves to the 80-digit side by the Left Frame.	
2-6.After the carriage continuously moves to the 80-digit side slowly and confirms it touches the Left Frame, sets the distance from the home position to the Left Frame as the theoretical value.	
2-7.The carriage quickly moves to the 0-digit side and slows down as it gets to its home position, and stops there.	
3. Low temperature operation sequence*3 3-1.The carriage moves back and forth between the 0-digit side and the 80-digit side for two times.	

(Continued to the next page...)

Table 4-1. Operation of the power-on sequence

Operation*1	Carriage/PF roller movement and position*2
4. Detecting ink cartridge and initializing ink system*4	
4-1.The carriage moves to the 80-digit side for IES detection.	
4-2.The carriage returns to its home position.	
4-3.The carriage slowly moves to the CR lock set position.	
4-4.The PF Motor rotates clockwise.	
4-5.The PF Motor rotates counterclockwise and sets the CR lock.	
4-6.The carriage slowly returns to its home position.	

Note *1: The rotation direction of the PF Motor is as follows.
Clockwise direction : Paper is fed normally
Counterclockwise direction : Paper is fed backward

*2: The conditions of the CR lock are as follows.
Red: CR lock is set
White: CR lock is released

*3: Executed when the detected temperature is under 5 ^{o}C (41^{o}F) by the thermistor on the Printhead.

*4: The empty sanction operation may occur depending on the situation.

4.2 Connector Summary

Cable connections of this printer are shown below.

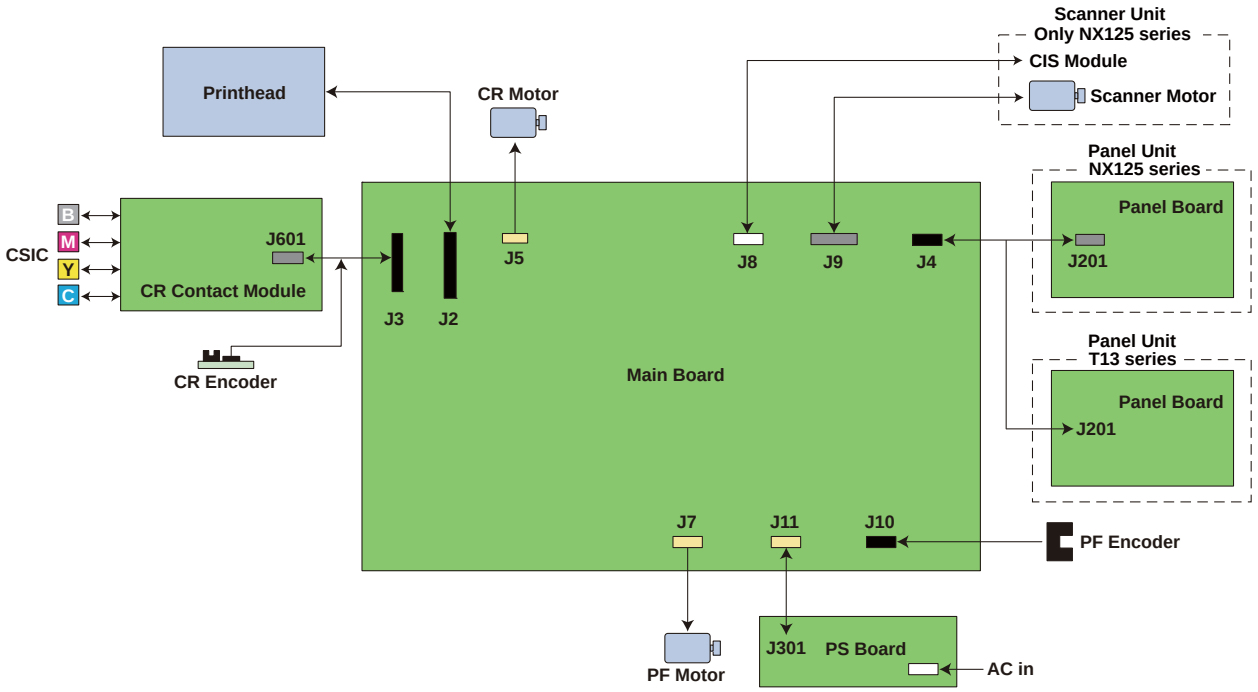


Figure 4-1. Connector Summary

CHAPTER **5**

STYLUS NX130 SERIES

5.1 Overview

Stylus NX125/NX127/TX120/TX125/TX123/SX125/TX121/TX121x/TX129/T13/T13x/T12/N10/N11/T22/T25/S22/T22E/ME320/ME330/ME350/ME32/ME33/ME35 (Stylus NX125/T13 series) and Stylus NX130/TX130/TX133/TX135/SX130/ME340 (Stylus NX130 series) use similar mechanism, and basically common to each other. Therefore, most of the information in prior chapters can apply to Stylus NX130/TX130/TX133/TX135/SX130, ME340.
This chapter describes particular information only on Stylus NX130/TX130/TX133/TX135/SX130, ME340.

Changes on Stylus NX130/TX130/TX133/TX135/SX130/ME340 (Stylus NX130 series)

- Panel Design
  Panel design is changed as shown figure below.

Figure 5-1. Difference on Panel Design